The Journal of the
American Medical Association

VOL. XXVI. CHICAGO, ILL., MAY 2, 1896. No. 18.

ADDRESS.

DR. JAMES FANNING NOYES—1817-1896; MEMORIAL REMARKS.

Delivered before the Detroit Academy of Medicine.

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Dr. James Fanning Noyes began his earthly career in a modest farmhouse adjacent to the town of Kingston, R. I., on Aug. 2, 1817, and closed it Feb. 19, 1896, at Providence, R. I., in the elegant home of his honored and loved nephew, Dr. Robert Noyes. Between these two dates and places Dr. Noyes wrought his part in the drama of human life. In the pursuit of knowledge and doing of work he wandered far from his beloved Rhode Island, but when the end of life drew near he returned to his kindred and left his earthly body near the spot where it was given him.

It was his to live in a period of human history surpassing all previous periods. In it the practice of medicine entered upon fields of conquest heretofore undreamed of. Accurate scientific knowledge was multiplied in all directions, and its application to medicine gave astounding results. Thus the application of the laws of optics to the study of vision gave us the ophthalmoscope, a workable knowledge of the refraction of the eye and the means for so correcting its defects as to afford incalculable good to humanity. Similar instruments of precision for the study and treatment of other organs followed, till now nearly the entire body can be seen, and much that transpires within it actually heard. The discovery of anesthesia, the study of bacteriology and asepsis have rendered the surgical exploration of every organ in the body measurably safe, thus rendering amenable to treatment many heretofore uncurable diseases. The chemist, the physiologist, the anatomist, the pathologist, the microscopist, the pharmacist, the hygienist, all have contributed important elements of this wonderful age. The steam and electric railways, the steamboat, the telegraph, the telephone and hosts of other mechanic arts have opened a multiplicity of medical problems of the highest interest. All these and their associated discoveries were seen by Dr. Noyes at their inception. Truly his was an age of all ages the greatest—the ripe fruit of long working, hoping, waiting.

No study of an individual life is adequate if separated from its ancestors. Each is, in a large sense, the product of the hopes, thoughts, fears, loves, ambitions, deeds of those who have gone before. Dr. Noyes came of ancestory that protested against the infringement of their religious and civic liberties in England, and sought on the bleak shores of New England opportunity to work out their ideas of the personal responsibility of each individual directly to its Maker, and to found a State based upon these ideas. In 1634 the Rev. William Noyes, a Puritan and Nonconformits, emigrated from England and settled at Newburyport, Mass. In this town, in 1647, the Noyes House was constructed, and has been occupied by some member of the family to the present day. Farther down the Rev. James Noyes drew up the famous Saybrook platform, was an incorporator of Yale College and preached at Stonington, where he died in 1719.

Dr. James F. Noyes was the fifth son in a family of twelve children, eight of whom grew to maturity. One brother, Edwin, became a well-known lawyer and railway man at Waterville, Me. One brother was for some years superintendent of the Michigan Central Railway. One brother still lives on the old farm at Kingston, R. I.

James was first trained in a private school kept by his sister Susan on the farm, for the benefit of the small children in the neighborhood. When older he entered a winter school kept by his father during the winter upon the farm. Later he entered the old Kingston Academy, at Kingston, R. I., in which his brother Aziel had charge of the classical department, other departments being in charge of Christopher Comstock and Hon. Thomas B. Church, father of the celebrated artist Church. Lastly he attended the Latin School for Boys, conducted by the Rev. Thomas Vernon, long time pastor of the Congregational Church at Kingston. It thus appears that most of his school training was from members of his own family.

Ill health now compelled him to relinquish the idea of securing a college education, thus changing his life, as at subsequent periods other attacks of ill health compelled changes in his professional career. It does not appear that these attacks were of a sort dangerous to life, but only to continuous mental and physical activity. Illustrative of his father's practical way in dealing with his children the Doctor related the following: When 16 years old his father placed his son in charge of a district school. Young, unsophisticated and ignorant of teaching, he was quite disturbed at the outlook, but in the early contest between teacher and pupils the discipline of the school was maintained, while the affection of the pupils had largely increased. His father was present at the end of the term, studied the situation, and remarked to his son that he need teach no longer, but rather attend school, because he had proved that he possessed material worth educating. The wisdom of this course is evident. Many young people are not worth spending money in educating beyond the common school. All professions, including the medical, are cursed with a host upon whom good money was entirely wasted. It is a pity that they had not been tested ere entering upon professional study and turned aside into callings for which their "make up" best fitted them. The world would thus have obtained the best possible work from each, and the unfortunates been rescued from the misfortune of spending their lives, as square pegs in round holes, pinched at each corner.

In 1842 James F. Noyes began the study of medicine with Dr. Joseph Potter at Waterville, Me. Two years later he took his first course of lectures at Harvard Medical School, and after a second course at Jefferson Medical College he graduated in 1846. After some further study in New York City, he was appointed assistant physician in the United States Marine Hospital at Chelsea, Mass., under Dr. James B. Loring, late United States minister to Portugal. In the fall of this year he assisted at the first public administration of ether for surgical purposes. In 1848, during the trial of Dr. Valorous P. Coolridge, at Augusta, Me., Dr. Noyes gave evidence showing that prussic acid had been used in the murder. His position being maintained by chemic evidence, conviction of the murderer was secured. This use of prussic acid being new in this country, the case attracted wide attention. In 1849 Dr. Noyes engaged in active practice at Waterville, Me., an opening being made for him by the removal of his former preceptor, Dr. Potter, to Cincinnati, Ohio. This fact, coupled with the influence of his distinguished brother, seems to have aided him in securing at once a large and lucrative practice. This rapid introduction to a large business doubtless had much to do with so undermining his health as to compel a vacation at an early date. However, while he could endure the work he did it with all the enthusiasm and energy which he possessed. The experiences thus obtained made a lasting impression upon his mind, and the older members of the Academy can recall the frequency with which he recounted his observations of medical events which occurred "down in Maine." In 1851 he left Waterville to form a partnership with his former preceptor in Cincinnati, Ohio, and continued in active work there till four years later, when failing health compelled a rest.

This rest was spent in Europe studying ophthalmology with Albrecht von Graefe, at Berlin and Vienna. The years 1858 and 1859 he spent in Paris, pursuing the same studies. While here he made the acquaintance of the late Dr. J. Marion Sims and delighted to describe Sims' first vesico-vaginal fistula operation on the continent, on a patient which had failed to obtain relief from two of the best European operators. Sims' operation was perfectly successful and laid the foundation for his subsequent popularity among the French. To Dr. Noyes, Sims' triumph was patriotic as well as personal. It compelled the French surgeons to recognize the merit of American gynecology.

In 1863 his brother, then superintendent of the Michigan Central Railway, and living in Detroit, induced him to move to that city, where he remained till his retirement from practice in 1886. While he did some eye and ear work in Maine and Cincinnati, the most was done in Detroit. He was the second regular physician to engage in this work in Detroit or Michigan. The first was Dr. Hildreth, who, after a few years' practice entered the army, settled in Chicago after the war, and finally died from an accidental overdose of medicine.

Dr. Noyes' first office was in a frame dwelling on the site of the new post-office. In a few years he purchased the southwest corner of Fort and Shelby streets, and on the Shelby side of the lot erected an office building for his exclusive use, which he occupied until he sold the property in 1886. This purchase was a fortunate investment, as he paid $9,000 and sold it for $45,000. During his holding he received a steady income from the rent of the dwelling-house and had his office and lodgings free.

The conditions under which he began practice at Waterville, Me., Cincinnati, Ohio, and at Detroit were all most favorable to his securing immediate and lucrative practice. Those at the two former places have already been noted. In Detroit, in addition to his brother, who occupied a high business and social position, he had cousins, W. B. and B. B. Noyes, then leading hardware merchants, and Miss Seraphine Noyes, a leader in the intellectual and social life of the city. These were pleased to acquaint their friends with the accomplishments of their distinguished relative and to introduce him to the leaders in business and society. On the organization of the Detroit Medical College in 1869 he was elected Professor of Ophthalmology and Otology, a position which he held for ten years. His record as a teacher is familiar to some of the present members of the Academy, to his students during those years and to many members of the profession. He was a member of all the local and general and medical organizations which were in any way related to his own professional life or that of his associates, viz, the Detroit Academy of Medicine, the Detroit Medical and Library Association, the Michigan State Medical Society, the AMERICAN MEDICAL ASSOCIATION, the American Ophthalmological and Otological Societies, the American Association for the Advancement of Science, the Pioneer and Historical Society of Detroit, and the Rhode Island Historical Society. He was an honorary member of State medical societies which he visited during his travels, viz., the Ohio, the Rhode Island, the Maine, and the Texas Associations. He was a Mason, and a member of the Detroit and Grosse Pointe Clubs. In 1872 he was president of the Detroit Academy of Medicine. On its organization he was elected president of the Detroit Cremation Society and signified his faith in this method of disposing of the dead by directing that his own body be cremated. He was not a prolific writer, but papers from his pen are quoted in the volumes of the Boston *Medical and Surgical Journal*, the Detroit *Review of Medicine and Pharmacy* and the transactions of the several societies to which he belonged. The published discussions of the Detroit Academy of Medicine during the period of his active practice contain frequent records of his views on a great variety of topics in all departments of medicine and surgery. He was a general practitioner of superior accomplishments before he became a specialist, and never lost his interest in any department of the entire field. He introduced a method of operation for strabismus by folding the weaker muscle and stitching it until adhesions were established and the shortening became permanent.

He took an active interest in the establishment of Oak Grove Asylum at Flint, Mich., and until his death was a trustee. Last year he provided the funds for the erection of an amusement hall for the inmates, to be known as "Noyes Hall."

He donated a large amount of money for the maintenance of free beds at the Rhode Island Hospital. For many years he had supported several young people while they were being educated for positions in which they could earn their living—his idea being to make useful citizens, capable of supporting themselves, of some who would otherwise be a burden to both themselves and others. Possibly he did this to partially compensate for his never having a family

of his own. For many years he was ophthalmic surgeon to St. Mary's, Harper and Woman's Hospitals, and he took pride in doing the work.

As a physician his manners partook of the race whence he sprung and of the customs of the physicians among whom he was educated. These covered under a gruff exterior a really kind and sympathetic heart. If the patient gave instant attention and unquestioning obedience the Doctor was a most delightful person. To other patients his words and acts as well as manner were intended to compel a proper respect for the profession in general and himself in particular. While in general practice, Dr. Noyes gained a reputation for daring and skillful surgery, and until his death he never tired of watching surgical operations. He once told the writer that he had made a mistake in dropping general for special surgery. His mental inclination was toward mechanical rather than the abstruse problems of pathology, physiology, the action of remedies, etc. In the management of medical cases he leaned heavily upon his medical friends, just as they leaned upon him in their surgical cases.

Why he never married is not clear, as he was fond of the companionship of cultured ladies and numbered them among his firm friends. The fact explains many peculiarities of his personal and professional career.

For many years anterior to his retirement from practice he was subject to occasional attacks of heart disturbance of a nature never fully made out by the most skillful diagnosticians. These attacks were very distressing to both himself and his attendants. A little extra exertion would frequently induce them. Indiscretions in diet or smoking or extra excitement were often followed by their presence. From the account of his death it would appear that he died in one of these. He thought himself that the walls of the artery supplying the heart muscle had become degenerated. His urine contained sugar for some years anterior to death, but I do not know as the relationship between this and the heart difficulty was ever satisfactorily worked out. Certainly the heart affection long antedated the urinary abnormality. However, he retained his mental powers until the last, and his death was sudden and peaceful.

After his retirement from practice his friends noted a marked change in him. His spells of moodiness and irascibility which previously had now and then enthralled him, entirely disappeared and he became one of the brightest and sunniest of men at all times. He also became interested in the comfort and happiness of those about him. He spent much time in travel, and was one of those wise travelers which become filled with the habits of the people observed, their customs, their history, the physical characteristics of both people and country, the social, educational, political and industrial peculiarities—in short, everything which it was possible for him to learn. This large increment of his mental riches, with his judgments thereupen, he placed freely at the disposal of his friends, and in such a manner as to delight and charm. Far beyond the habit of his earlier life he seemed to have a genuine pleasure in serving friends. His personal antagonisms faded away with personal asperities of speech and manner, and his entire personality mellowed and grew steadily richer in all that pertained to a genuine manhood. His hoary head became a crown of glory, shining brighter and brighter until his spirit took its upward flight. From this study of these 78 years of a single human life we note:

1. The stock from which Dr. Noyes sprang was Puritan of the straightest sort. It was earnestly settling the fundamentals of individual and State development. Necessarily the ornaments and amenities of human life were given little attention. His ancestor left England and came to Newburyport, Mass., because he wanted an opportunity to worship God and conduct his daily affairs in accordance with ideas quite at variance with those prevailing in the land of his birth. This ancestor was a minister whose purpose was to aid in solving the problems involved in a government of the people directly responsible to God. Strange as it may seem to some, Dr. Noyes at one time had determined to become a minister, and had packed his trunk with the intention of entering a theological seminary, but a trivial incident diverted him to the study of medicine. From the date of landing on the bleak New England shore, his ancestors never swerved from their original purpose. He himself was born and reared on a Rhode Island farm, by parents sufficiently educated to conduct a private school, while they supported themselves by farm labor, taught their children those habits of industry, perseverance and thrift which characterized his career.

2. While ill-health prevented his securing a college training, he obtained all the education possible and never lost a chance to increase it during each year of his life. To the very latest moment he was adding to his store and to his ability to utilize it.

3. It would seem that he entered the profession of medicine because he loved it and all that pertained to it. It will be remembered that his medical studies covered a period of six years, though at that time but two were called for by any medical college. He was not content with study in one city, but studied in many, a fact which rendered him personally conversant with the most noted men of his student days. Further, during all his life he continued to pursue medical studies with zest, determined to keep himself in the front rank of a rapidly developing profession. Why he entered upon the study of ophthalmology is not clear; possibly the exposures incident to country practice in Maine during the winter months was too much for his physical powers, and the specialty of the eye then being a novelty, diverted him from general practice. Be this as it may, he spent much time and money in qualifying himself for his special work, and he never had any patience with those who entered medical work of any sort without the most perfect preparation.

4. Outside of medicine he was most interested in music. He thought that good music brought him nearest divine things. It stirred his whole being as it does but few. Hence he supported directly and indirectly all musical societies within his reach. His life was full of activity; in fact he was a model of industry. He never wavered in his devotion to the higher ideals of his chosen profession. He did the duties of each hour according to the light which he possessed. His affection for the Detroit Academy of Medicine never failed, his loyalty was unquestioned, and his faith in its future service to medicine unfaltering. As a man, as a patriot, as a citizen, and as a physician his life presents material for profitable study and emulation.

ORIGINAL ARTICLES.

LONGEVITY OF PHYSICIANS.

Read before the Broome County (N. Y.) Medical Society, April 7, 1896.

BY JOHN M. FARRINGTON, M.D.

BINGHAMTON, N. Y.

All men think all men mortal, but themselves.—*Young.*

"It is a swift current—that stream of life, on which we ride. We fall asleep, and awaking, find ourselves almost home. Our companions, too, are constantly changing; at every moment new ones come aboard, and old ones leave us, and we have scarcely time to become familiar with their faces, or to make ourselves acquainted with their character or purposes, before they are summoned to the gangway—the boat is lowered, and we wave them a friendly farewell. All along the sands of that silent shore, which we now so faintly see, our friends have left us; and we are awaiting the time when, cheerfully, manfully and hopefully, I trust, we shall receive our summons and depart 'alike to the inevitable grave.'"—Extract from Dr. Frank H. Hamilton's Eulogium upon the life and character of T. Romeyn Beck, M.D., LL.D., February, 1856.

What I shall present upon the subject of the Longevity of Physicians will be more in the nature of a compilation of what I have been able to find published by my predecessors, rather than tables or deductions framed from my personal observation and experience. I shall therefore quote freely the substance, if not the exact language, of what I have found recorded. After a very diligent search for information on this, to me, interesting topic, I have been led to the conclusion, that there is quite a dearth of matter, thus far printed on this subject.

I am aware that heredity is the prime factor to be considered in forecasting the probable longevity of any member of the human family, and vocation is of secondary importance; nevertheless statistics prove that it has its influence beyond question in the life of the individual. Life insurance companies classify some vocations as extremely hazardous and decline to assume risks upon persons engaged in them. The scope of this paper is not designed to include, only for reference or comparison, any profession or vocation save that of the medical practitioner.

F. G. P. Neison, Esq., read before the Statistical Society of London, March 15, 1852, a paper "On the Rate of Mortality in the Medical Profession" accompanied with many full and elaborately constructed tables, the whole occupying thirty pages of the Quarterly Journal of the Statistical Society of London published in September, 1852. Mr. Neison's article considered the rate of mortality among two different classes of medical men: the one class being the officers of the Medical Department of the Royal Army and the other the members of the Royal Medical Chirurgical Society. The facts relating to the former were collected from the records of the Society for the benefit of the widows of the officers of the Medical Department of Her Majesty's Army established in the year 1816, and the facts, relating to the latter class were abstracted from the books of the Royal Medical Chirurgical Society established in the year 1805. Mr. Neison states that the utmost care was taken by him and the analysis was a laborious and troublesome one. The social condition of the members had an important influence on the rate of mortality and he found that the results of his analysis were not only exceedingly curious, but of great and practical importance. By social condition, Mr. Neison refers to married and single, his researches showing that the rate of mortality of the unmarried from 20 to 54 was 2.386 per cent. while the married for the same ages was 1.872, and that from 55 to 84 the rate of the unmarried was 2.972 and the married 4.422; that is, that the mortality of single life is greater in the earlier ages and less at those ages more advanced. These tables however refer to those connected with the army. Mr. Neison's investigations relative to the members of the Royal Medical Chirurgical Society show the mortality of medical men differs but little from that of the general male population of England and Wales. Dr. Wm. A. Guy read a paper before the Statistical Society of London, Dec. 19, 1853, "On the Duration of Life among Medical Men." His essay embodied a table showing the average age at death in 260 members of the medical profession. He excludes all deaths by violence, accident or suicide, which I regret, as these fatalities are frequently concomitants or resultants of the practice of our profession. The arrangement of his tables are such that I have not been able to make any practical use of them. His conclusions are that the duration of life of members of the medical profession does not differ materially from that of the clergy; that the duration of life of physicians has somewhat increased during the last three centuries. He made a table of three classes of medical men, showing that the general practitioner exposed to so much fatigue, harassed by calls for his professional services, at all hours of the day and night, and often a prolonged attendance among those classes of the community with whom contagious diseases are most rife, have their lives shortened when compared with the other members of the same profession.

James Easton of London has published an account including the name, age, residence and year of decease of over 1,700 persons who survived 100 years and more, from the 1st to the 18th centuries. The official records of the Board of Health of New York contain a record of over thirty centenarians that died in that city during a period of three years and five months from Jan. 9, 1864, to May 15, 1867. It is stated that the oldest of the Greenwich and Chelsea pensioners all answered in the affirmative the two questions: Were you descended from persons of long life? Have you been in the habit of early rising?

Intemperance is one of the most pernicious agencies in shortening life, operating at all times and in all seasons, and is no respecter of persons or professions.

If an excuse or apology could justly be made for any one falling into the habit of intemperance, it could be made for the wearied and worn-out physician who whilst he should be an example of the proper mode of living is tempted to use alcohol in some form for the temporary stimulation he receives. But the fallacy, as well as the unfortunate results of such a course, is at the present time made more apparent, since the true position of alcohol as a medicinal agent has of late been so conclusively shown. That instead of being a stimulant and supporter of animal life it is a depressant, and is henceforth to be classed as an anesthetic and not a stimulant.

Mr. Neison, whose paper we have previously referred to, was an actuary of London and a high authority on statistics and has, from a series of careful observations, deduced some valuable statistics regarding this subject of intemperance, which prove that the average duration of life after the commencement of intemperate habits is among beer drinkers 21.7 years, of spirit drinkers, 16.7 years and among those who drink beer and spirits indiscriminately 16.1. He framed the annexed table of expectancy of life.

Age.	Temperate.	Intemperate.	Loss of Life.	Per cent. of duration of life of Intemperate as compared with Temperate.
20	44.2 yrs.	15.5 yrs.	28.7 yrs.	35 per cent.
30	36.5 yrs.	13.8 yrs.	22.7 yrs.	38 "
40	28.8 yrs.	11.6 yrs.	17.2 yrs.	40 "
50	21.2 yrs.	10.9 yrs.	10.3 yrs.	51 "
60	14.3 yrs.	8.9 yrs.	5.4 yrs.	63 "

It was noticed that professional men addicted to drunkenness are shorter lived than drunkards in other pursuits. The influence of marriage upon longevity is a well established fact. Few unmarried centenarians will be found. The results of the observations of Dr. Guy were stated as follows: Mean average of married 66.7 years, of unmarried 62.0 years.

The superior longevity of the farmer over all other vocations is shown in all the tables of those who have made the subject of longevity a study. The following verse well portrays some of the causes that make the farmer's life more favorable to longevity.

"From toil, he wins his spirit light,
From busy day, the peaceful night;
Rich, from the very want of wealth
In heaven's best treasure, peace and health."

In the official registration report of Massachusetts for 1843 to 1866 the average age of the physicians who died during those years, 820 in number, was 55.84, a lower rate than Dr. Guy found in England, which he arranged in three classes, the lowest 67.04, the highest 72.95. The Massachusetts table gives that of lawyers 56.21, judges 66.38, clergymen 57.79, the judges being the highest in the list of sixteen different professional pursuits. Few physicians survive to extreme old age, but as a class they enjoy a comparatively long career, despite the risks of contagious diseases and the arduous nature of their duties.

Lieut. J. W. Maclay, in an essay on "The Relation of the Different Professions and Vocations to Longevity," published in 1873, divides longevity into normal and abnormal; the former denotes the average length of life and the latter advanced or extraordinary longevity. The average of life varies with the habits of the people as regards morality, industry and civilized culture. Ancestral history, as we stated at the beginning of this article, is of the first importance—if a good constitution has been inherited, long life is almost assured if ancestors were long-lived. There are many influences that affect the duration of life, *e. g.*, habits, vocation, residence, health and intelligence. Judges are long-lived not because their vocation is particularly favorable, but the inherited vigor that gives them judicial qualities enables them to bear the strain which short-lived persons would neither undertake nor sustain.

Statistic tables often fail to prove what they claim because they include in their averages such different kinds of persons, and thus mislead the student from noticing real causes and deductions.

The London *Lancet* of January, 1886, states as follows: "The weaker will sometimes prove himself the more tenacious of life by observing rational methods of living, of which the more robust is careless. Moderation has probably more to do with success in this respect than anything else. To eat sufficiently and drink stimulants sparingly, to alternate work with adequate rest and to meet worries heartily, will afford to every one the best chance of arriving at a ripe old age."

Dr. Wm. Ogle, Superintendent of the Statistical Department of the Registrar General's Office, read a paper on "The Mortality of the Medical Profession" before the Royal Medical Chirurgical Society in London in January, 1886, from which I shall quote liberally. The census of 1881 showed that there were in England and Wales physicians, surgeons and general practitioners 15,091, and after the census was over, the causes of the death of all males aged 15 and upward in England and Wales during the three years 1880–82 were abstracted from the National Death Register, in combination with the occupation of the deceased persons.

The results of this process as regards the mortality of medical men was to show that their mean annual death rate in those three years was 7.40 per 1,000 between 20 and 25 years of age, 11.57 between 25 and 45, 28.03 between 45 and 65, and 102.85 per 1,000 at 65 and upward.

Dr. Ogle compares the mortality of medical men in those three years with that of men engaged in other pursuits, and gives a table showing the annual death rate in a number of different professions and trades. Each of the rates is calculated for 1,000 males aged upward of 20 years with the same age distribution as the medical profession. The death rate of medical men is shown to be far in excess of that of other professions. Thus, the death rate is 15.93 in the clerical profession, 20.23 in the legal profession and 19.90 in the scholastic profession, while in the medical profession it is 25.53. The rate in the medical profession is not only higher than in any of the other learned professions, but also compares unfavorably with the rates in most other trades and industries, and is indeed only exceeded by the rates in certain trades and occupations that are notoriously unhealthy.

Having established beyond doubt the fact of the marked excess in the mortality of the medical profession, Dr. Ogle proceeds to consider what are the causes to which this excess is attributed, or rather what are the diseases under which it occurs. This information has been derived from copies of the entries in the Death Register relating to the death of 3,865 medical men during the years 1873–82 forwarded to the General Medical Council in accordance with legislative enactment for the due correction of the Medical Register. Dr. Ogle's information based upon these facts is, as he asserts, unique in character. No similar information, unfortunately, exists for any other profession or industry. The number of deaths dealt with is fairly large. The deaths were spread over a period of ten years and they occurred in all parts of the country; they may therefore with full confidence be accepted as a fair sample of the causes of death of medical men. The 25,535 deaths estimated to occur annually among 1,000,000 medical men are therefore assumed to be caused by the various diseases in the proportion shown by the classification of the causes of the 3,865 deaths. The result of this distribution gives the annual death rate per 1,000,000 medical men from each cause of death dealt with.

A table is appended giving side by side with these death rates from the several causes among medical men, the rate for the same causes among all males in England and Wales, irrespective of occupation, and duly corrected for differences of age distribution. The result of this comparison is to show that, with very few exceptions, the mortality of medical men is higher from every disease or group of diseases than is the mortality of males generally. Under some of these headings the medical mortality is twice or thrice or even more times greater than the average. Passing over Dr. Ogle's comparison of the mortality from the

various diseases we notice the death rate from suicide, which is 363 per 1,000,000 among medical men against an average of 238 for all males, and it is further pointed out that the tendency to suicide is increasing in the medical profession, whereas no corresponding increase is shown in the figures for the general male population. In order to facilitate a comparison between the death rates from suicide in the three principal professions, legal, clerical and medical, the annual rates were specially calculated for the six years 1878–83; they are given as 128 for the clerical, 354 for the legal and 464 for the medical profession.

In the *Medical and Surgical Reporter* for February, 1881, I find it stated that Hecker's statistics confirm the fact that the duration of the life of medical men is notably less than the mean.

Dr. Escherich's tables show that in Bavaria of 100 men in each vocation, 53 Protestant pastors, 41 professors, 39 advocates or magistrates, 34 Catholic priests and only 26 physicians reach the age of 50.

Kayser finds in the region of Breslau the average age at which physicians die is 56 years, priests 58, professors 59, higher office-holders 64, apothecaries 64 and lawyers 64.

Hufeland, who wrote his work on "The Art of Prolonging Life," 100 years ago, in 1796, in writing of the longevity of physicians says: "Physicians, who so abundantly dispense to others the means of health and life, ought to claim here a distinguished place, but unfortunately this is not the case. It may be said of them in general, in serving others they are consumed, in healing others they are destroyed."

"At any rate," he says, "mortality is greater among practicing physicians than perhaps among men of any other profession. They have the least opportunity of observing those prudential rules and precautions for preserving health which they lay down to others; and there are few employments in which the powers both of the body and mind are exposed to so much consumption as in this. Head and feet must be always exercised in common. But the greatest mortality prevails during the first ten years of their practice. A physician who has fortunately withstood that period, attains to a certain strength of constitution, a kind of insensibility to fatigue and the causes of disease; by custom, noxious effluvia and the poison of infectious disorders become less prejudicial, and he acquires more indifference for the heart-melting scenes of woe and the numberless miseries, the consequences of vice and moral evil, which his business condemns him to be a daily spectator of; and thus a physician who has luckily passed his time of probation, may become an old man. A striking instance of this is afforded by our predecessor, Hippocrates, who lived to the age of 109. His whole life was employed in the study of nature, in traveling and in visiting the sick, but he passed more of his time in small villages and in the country than in great cities."

I have noticed a statistic table prepared by order of the legislature of Massachusetts at some time previous to 1858, which shows that the average age of physicians in that State was somewhat higher than that of the legal or clerical professions: Physicians 54.94, lawyers 54.43, clergymen 52.40, agriculturists leading the list at 63.93.

Dr. S. H. Freeman, president of the New York State Medical Society in the year 1858, in his annual address on "Human Longevity," was doubtless encouraged from a study of this Massachusetts record to give expression to the cheering assertion "that the vocation of the physician though perhaps exposed to the severest vicissitudes and trials, in wearisome days and anxious nights, is not unfavorable to longevity; for medical men, from the general activity of their profession, their knowledge of the causes which promote health, and the wholesome exercise of the mind and body, are often enabled to enjoy long lives of active beneficence in dispensing those grateful charities, 'that cheer and soothe and bless.'"

According to Dr. Jarvis' tables, the average duration of the lives of physicians is 56 years. Consequently a physician who begins practice at the age of 24, his active profession life will be 32 years.

The Massachusetts Medical Society published a list of their members who died in 1870 and 1871, thirty-seven in number. The ages of thirty-two are given, averaging 60½ years, the extremes being 28 and 84. This, as well as the previous record from Massachusetts, gives a longer tenure of life than common opinion allots to our profession. My old friend and beloved teacher, Prof. E. R. Peaslee, who died at the age of 64, in an address in March, 1851, before the Medical School of Maine, at Brunswick, said: "The constant exertion of body and mind in medical practice, actually renders the average of life several years less in medical than in the other two professions." He quotes statistics for 1846 collated by the State of Massachusetts, giving the average of deceased clergymen 64 years, of lawyers 59 and of physicians only 47 years.

Dr. Casper, of Berlin, in 1834 deduced from statistics the following longevity of different callings: To 42 theologians that attained the age of 70 and upward there were agriculturists 40, commercial men 35, advocates 29, artists 28, teachers and professors 27, and physicians only 24.

M. Quetelet in "A Treatise on Man," Edinburgh, 1842, remarks that it would seem to follow from the above table that mental labor is more injurious to man than bodily; but that the most injurious state of all is that where fatigue of body is joined to that of the mind.

The mortuary registration for the year 1839 in England gave the average ages of deaths of persons in the three professions as follows: Clergymen 59, lawyers 50, physicians 45. T. W. Higginson is responsible for the statement that "Prof. Pierce has proved by statistics that the best scholars in our colleges survive the rest; virtue like intellect doubtless tends to longevity."

Dr. G. W. H. Kemper, of Muncie, Ind., in the *Indiana Medical Journal* of February, 1895, in an article on the "Longevity of Indiana Physicians," states that he found in the "Transactions of the Indiana State Medical Society," from 1880 to 1894 inclusive, 213 deaths of physicians recorded. These were representative men of the medical profession in that State, and their ages, in the opinion of Dr. Kemper, gave a fair estimate of the longevity of our profession. Of these 6 died in the twenties, 29 in the thirties, 49 in the fifties, 62 in the sixties, 33 in the seventies and 9 in the eighties. The ages of the octogenarians were as follows: Four reached 80, one 81, one 82, one 83 and two reached the highest, 88. The 213 persons lived 12,088 years, which gives an average of 56 years and 9 months to each person. Three of them met violent deaths at comparatively early ages, two having been run down by railway

trains and one assassinated; but for these accidents Dr. Kemper states the report would appear better.

Dr. Salzmann, of Essling, Germany has made a study of all the available facts regarding the longevity of physicians to be found in the records of his country, going back as far as to the sixteenth century. In that period the life of the medical man was 36.5, in the seventeenth 45.8, in the eighteenth 49.8, and in the current century 56.7. The comment is made that the increased life rate is the result of the growth of preventive medicine, and especially those measures that have reduced the extension of smallpox and contagious fevers.

At a meeting of the Illinois State Board of Health (the date of which I have been unable to obtain), Dr. John H. Rauch presented a report upon the mortality rate and causes of death among physicians. The paper contains many facts of interest. Dr. Rauch's observations are based upon data accumulated in the ten years preceding his report, regarding Illinois physicians. He finds that the average duration of life among them is lower than is usually supposed to be the case among physicians, viz., 52 years, and that only 11 out of every 100 reach the scriptural limit of three score and ten. During those ten years under observation there had been about 6,000 physicians living annually in the State, among whom there were annually about 80 deaths, giving an annual death rate of 13.3 per 1,000. We will not quote the table published with his report, which shows that the death rate among physicians in the earlier part of their practice is lower than among males generally, or even in the general population. After the age of 40, however, the death rate is proportionately greater, and after the age of 60 it is higher than in the general population. The doctor after he gets to be 40, therefore, should be more than ordinarily careful, for his chances of life are less than those of his neighbor. With regard to the causes of death Dr. Rauch gives tabulated statistics, and adds: "Of the grouped causes of death, consumption, diseases of the respiratory organs (including 91 from pneumonia) and Bright's disease caused 268 deaths, or more than one-fourth of the total. If to these be added a share of the deaths from diseases of the heart, the sequelæ of rheumatism, a fair estimate may be made of the effects of exposure to the vicissitudes of weather upon the wear and tear of medical life. As a result of mental strain and anxiety, of insufficient, irregular and interrupted sleep and similar causes in the total of deaths from diseases of the brain and nervous system, embracing forty-three from various forms of paralysis. In the group of zymotic diseases (enteric fever given separately) there were five deaths from diphtheria, one each from smallpox and yellow fever and eight from traumatic infection (septicemia, etc.), all contracted from attendance upon patients.

Less creditable to the *morale* of the profession are the eighteen deaths from overdoses of opiates and narcotics, the seven admitted suicides and the deaths from alcoholism, direct and indirect, twelve of the former and at least eight of the latter."

Dr. J. L. Kortright, in the *Brooklyn Medical Journal* for June, 1895, has an article on the causes of death of medical men in Brooklyn and New York for the years 1884 to 1892 inclusive. The mortuary statistics includes 450 physicians. The average of age at death was 54.6. He does not publish the entire table of diseases but states that a large proportion of them may be classed as accidental and in no way dependent upon the pursuit of the practice of medicine. The startling announcement is made that the mortality from suicide among physicians is four times that of other adult males. In most cases death was caused by poison. Frequenty the suicide was unintentional and resulted from an accidental overdose on the part of some victim of a drug habit. Pneumonia furnishes a large death rate, which would be expected when we consider the exposure to inclement weather and night air incident to the practice of our profession. Bright's disease, apoplexy and various forms of heart disease are grouped together as all having common pathologic conditions, viz., arterial sclerosis and degeneration of the muscular fibers. The mortality from these causes was 35 per cent., whereas the usual death rate from these causes among all male adults is only 25 per cent. Arterial sclerosis was a cause of over a third of all the mortality. In concluding his article Dr. Kortright gives the following sage advice and warning: "The lesson, then, that we should learn from our deceased colleagues is not to work too long. When you find your arterial tension increasing, your temporal artery becoming tortuous, your radial growing hard, especially if you have a little palpitation and pass an increased amount of limpid urine, whatever your years, know that old age is upon you. Henceforth shape your life like one that is old. Curb your ambition. Be content with a small practice. Reduce your expenses. Give up your night work. Decline confinements. Take a long vacation in summer. Retire early. Eat abstemiously. Drink not at all. Sell your horse. Take a great deal of moderate exercise in the open air. Watch the functions of the skin. Guard against a chill. Cultivate an even disposition. Study to be quiet."

I have nothing but commendation for what the doctor evidently means in these laconic sentences and yet it seems to me that at least two of them need a little qualification or amplification. "Sell your horse" means, I presume, so that you will get more exercise in walking, but some patients would be too far distant to visit on foot, and after sufficient exercise on foot driving is both healthful and pleasant. The other sentence, "Drink not at all," leads me to think that Dr. K. is a Kentuckian, as I recall reading the experience of a traveler in Kentucky who on a hot day, weary and parched with thirst, stopped at a house by the roadside and asked the resident if he could give him a drink. The reply was, "I am very sorry, my dear sir, but I have not anything to offer you." "Why," said the traveler, "is not that a well?" "Oh, yes; yes; you can have all the water you want, but I thought you *wanted a drink*."

Dr. E. J. Marsh, in an address on longevity delivered before the Medical Society of New Jersey, of which he was President, in June, 1892, states that the medical profession does not stand high in the list and the mortality is great in comparison with that of other professions. The hard physical work, the exposure to vicissitudes of weather and the contagion of diseases, the disturbance of regular hours of sleep and food, the mental strain and anxiety from responsibitity for life or death are all prolific causes of sickness or of premature decay. The dangers and burdens fall chiefly upon the young men and those in the prime of manhood and when this stage of life is safely passed the mortality of physicians approximates the average for the other professions.

Of 89 presidents of the New Jersey State Medical Society whose deaths are recorded in the "Transactions," 24 died under 60 years of age, 34 between 60 and 70, 20 between 70 and 80, 10 between 80 and 90, and 1 at 93. At the date of Dr. Marsh's address Dr. Enoch Fithian, of Greenwich, N. J., had passed his centennial birthday. Dr. Holyoke, of Salem, Mass., practiced his profession for seventy-five years, and even after his hundredth birthday was consulted and gave medical advice. A statement was published in April, 1895, that Dr. de Bossy, the oldest of French physicians, was born in 1793, that he had never been ill and was still in active practice in Havre. He rises at 7, summer and winter, and as soon as dressed starts on his rounds, usually on foot. He attributes his longevity to moderation in all things. His father lived to be 108, and in that fact more than to his own conduct do I attribute this long life of the son.

Dr. William Salmon now living in Glamorgan, England, entered his 107th year March 16, 1896. He is still in excellent health. His father was also a physician. He derives deep pleasure from the faith that he is the oldest justice of the peace, the oldest physician, and the oldest freemason in the world, and Gladstone, who is young enough to be his son, sends him a birthday telegram every year, with his sincere wishes for here and hereafter.

The most remarkable instance of longevity that ever came under my own observation was that of a hale farmer, Samuel Vann, living in the town of Ulysses, Tompkins County, N. Y. He was born in New Brunswick, N. J. He was never ill, so far as I have been able to learn, until a few days before his death. He walked about the country, going frequently several miles in a day, until just preceding his death, which was some acute disease, I should think peritonitis, from what I have learned about it. He retained full possession of all his faculties, transacted all his business personally and gave no indications of such advanced age. Hon. Irving G. Vann, recently appointed by Governor Morton as one of the Judges of the Court of Appeals, is a grandson of Samuel Vann, who died March 19, 1877 after he had entered upon his 107th year. I saw a man 108 years old, but he was confined to his bed and as helpless as an infant. He was the father of Rev. Marshall, a Baptist clergyman living at that time in Covert, N. Y.

Shepard Homans, the great life insurance actuary, in 1891 published some matters of great interest in reference to longevity in general. He says man grows 20 years and his natural limit of life is 100 years. It has been found that the natural limit of life in all animals is about five times the period of their growth or complete development. Thus the camel grows 8 years and his natural life is 40; the horse grows 5 years and lives 25; the ox grows 4 years and lives 20; the dog grows 2 years and lives 10; and the hare grows 1 year and lives 5.

Buffon states: "That the man who does not die of accident or disease lives everywhere to 90 or 100 years of age." Hufeland says: "Nearly all those deaths which take place before 100 years are brought on artificially, that is to say, by disease or accident." Dr. Farr in the Sixteenth Annual Report of the Registrar General of England says: "The natural term of human life appears to be 100 years." Finally the prophet Isaiah says, lxv. 20: "There shall be no more thence an infant of days, nor an old man that hath not filled his days; for the child shall die an 100 years old." The extreme limit of life, Homans states, appears to be about twice the natural term or limit. Thus instances have occurred of man living to 200 years, or very nearly; and Buffon relates with much minuteness the history of a horse that lived 50 years. "How are we to account for the ages recorded in Genesis," says Homans, "of Adam, his sons and Methuselah?" "We can not disregard the teachings of science, nor need we doubt the statement in Holy Writ. Each has Divine authority. By what theory can we reconcile the two. Simply that the year or unit of time among the early patriarchs differed from that adopted since the Deluge, which has been twelve calendar months." Hensler, a high authority, shows the strong probability that the years till the time of Abraham consisted of three months only; that it was afterward extended to eight; and that it was not until the time of Joseph that it was made to consist of twelve. These assertions Hufeland (1796) states are in a certain degree confirmed by some of the Eastern nations, who still reckon only three months to the year, and besides it would be altogether inexplicable why the life of man should have shortened one-half immediately after the flood. It would be equally inexplicable why the patriarchs did not marry till their sixtieth, seventieth and even one hundredth year; but this difficulty vanishes when we reckon these ages according to the before mentioned standard, which will give the twentieth or thirtieth year, and consequently the same periods at which people marry at present. The whole therefore, remarks Hufeland, according to this explanation, assumes a different appearance, and with the period of Abraham, we find mention of a duration of life which can still be attained and which no longer appears extraordinary, especially when we consider the temperate manner in which the patriarchs lived, and therefore we reach the comforting assurance that man can still attain to the same age as ever. I have made diligent inquiry to verify the above statement, but have been unable to find any corroborative evidence that any Eastern nations now or ever have had years less than twelve months, which was the Jewish year not only, but also the Egyptian. I am surprised that this important statement from so high an authority should have passed unchallenged so many years, as Erasmus Wilson, F. R. S., published the translation of Hufeland's Art of Prolonging Life, in 1853, and as late as 1891 Shepard Homans refers to it as a very satisfactory explanation of what would otherwise seem difficult of comprehension.

In recently looking over the transactions of our (N. Y.) State Medical Society, it seems as though I was walking through a graveyard where were buried a host of my medical friends or acquaintances, and that on every side of me were the headstones or monuments recording their names, ages and brief notices of their earthly labors and the professional honors which they had won during their active professional lives. Each and every volume of the Transactions contained obituaries of former members read by surviving professional brethren who in turn, soon after, or at least many of them, lay down the burden of life and were represented in later volumes by some medical friend presenting their obituary memoirs. I was much surprised on reading these memoirs to notice that most of these physicians died at an earlier age than I had supposed, though at the time of their death I knew their ages, yet somehow in the lapse of time that had occurred I had retained an impression that

they were older men than the published records now show they were. Some of them were privileged to have the poet's wish:

"To glide my life away! and so, at last,
My share of duties decently performed,
May some disease, not tardy to perform
Its destined office, yet with gentle stroke,
Dismiss me weary to a safe retreat
Beneath the turf that I have often trod."

Others were summoned by long and painful maladies, yet were

"Sustained and soothed
By an unfaltering trust."

"The air is full of farewells to the dying and mournings for the dead, but our ears are so dulled by the iterated sounds that their dread import rarely reaches our hearts, unless on occasions when we are appalled by the intrusion of death stalking into our own households, or invading the circles that embrace those with whom we are accustomed to associate, and whom we hold in regard for qualities that have endeared them to our hearts and capacities that have commanded our admiration."

Whilst passing in review the life and character of many professional friends and acquaintances of former years, and as I have scanned the death record of the past for the facts here recorded, the solemn words of Daniel Webster have come forcibly to mind, for he left on record his deliberate convictions regarding professional fame in these words:

"Professional fame fades away and dies with all things earthly. Nothing of character is really permanent but virtue and personal worth; these remain. Whatever of excellence is wrought in the soul belongs to both worlds. Real goodness doth not attach itself merely to this life. It points to another world. Political or professional reputation can not last forever; but a conscience void of offence toward God and man is an inheritance for all eternity."

In bringing to a close this compilation of what I have been enabled to secure upon this interesting subject, I desire to state that I have no doubt that there is much in print that I have failed to find, not having had an opportunity to visit any of the large libraries of our cities while preparing this article. Nevertheless, I trust that some one else will, by reading what I have collected, be prompted to supplement my article with fuller details and statistics from other sources. It would not be a very tedious task for the secretary of every medical society to tabulate from the mortuary records of its members a table and statistics of real value and interest. And every State and city of our country that has a system of recording the vital statistics could furnish much material for a paper on the longevity of physicians. Our State of New York has these records since 1880, but in a recent correspondence with Dr. B. F. Smeltzer, the Secretary of the State Board of Health, he states as follows: "It is regretted that the information you desire has never been tabulated; the records, however, are at your disposal at any time you wish to consult them or send a representative to this office for that purpose, when we would be pleased to aid you in securing the desired information."

To the older members of our profession I desire to speak words of cheer, for old age has opportunities for usefulness equal to any period of life. The veterans in medical practice have solved many problems that the younger practitioners are still wrestling with. Experience is the most efficient teacher and one whose lessons are least likely to be forgotten. How many visionary theories have been traversed and found baseless; how many lessons taught us by honored professors have proved of little value; but the lessons we have learned from practical experience and careful observation, repeatedly tested, have proven to be an anchor to our souls when we have been tossed upon the waves of tempestuous controversy and adverse criticism. We find solace often in that couplet:

"One self-approving hour whole years outweigh,
Of stupid starers and of loud huzzas."

If confident that we are correct in our diagnosis and procedure, we may calmly rest while the hurricane of discordant criticism may roar about us. Longfellow thus encourages old men, and these words should give inspiration to every member of our loved profession on whom the infirmities of age are resting.

"But why, you ask me, should this tale be told
To men grown old, or who are growing old?
It is too late. Ah! nothing is too late
'Til the tired heart shall cease to palpitate.
Cato learned Greek at eighty; Sophocles
Wrote his grand Œdipus, and Simonides
Bore off the prize of verse from his compeers
When each had numbered more than fourscore years;
And Theophrastus, at fourscore and ten,
Had but begun his Characters of Men.
Chaucer at Woodstock with the nightingale,
At sixty wrote the Canterbury Tale;
Goethe at Weimar, toiling to the last,
Completed Faust, when eighty years were past.
These are, indeed, exceptions, but they show
How far the Gulf stream of our youth may flow
Into the Arctic regions of our lives,
Where little else than life itself survives."

A PRACTICAL OPHTHALMOSCOPE.

BY EDWARD JACKSON, A.M., M.D.

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The Sight-hole.—The principal use of the ophthalmoscope is to enable us to study the interior of the eye. The use of its lenses for the measurement of refraction is of much less importance. In most of the forms of the instrument employed in this country its principal use has been somewhat sacrificed to assist its less important function. To measure refraction with the ophthalmoscope it is necessary by using a large sight-hole to exaggerate the blurring caused by imperfect focusing. For the other uses of the ophthalmoscope this blurring should be reduced as much as possible. It can not be entirely corrected by lenses, because in all eyes, with the pupil dilated as in a dark room, there is irregular astigmatism which no lens can correct. Such blurring is reduced directly in proportion to the reduction in the size of the sight-hole; hence, the most distinct view of the details of the eye-ground is only to be obtained through a small sight-hole.

Again, one of the chief obstacles to obtaining a view of the fundus is the reflection of light from the surface of the cornea. The reflection gives rise to a minute image of the source of light apparently situated a few millimeters behind the cornea; and, therefore, so close to the surgeon's eye that the light from it falls on his retina in a circle of diffusion. The size of this circle is directly proportioned to the size of the sight-hole in the ophthalmoscopic mirror, through which the light is admitted. If this circle be larger

than the image of the patient's pupil, the pupil is seen as through a luminous cloud. But if the circle of diffusion be smaller than the image of the pupil, the view through the part of the pupil not covered by the luminous cloud will be clear. The reflection from the patient's cornea is the main obstacle to the examination of the eye without the use of a mydriatic, and particularly to the examination of the region of the macula. For the great mass of ophthalmoscopic examinations it is therefore the most serious obstacle. The sight-hole of three or four millimeters in diameter, used in most ophthalmoscopes, is too large. One of two millimeters in diameter is distinctly to be preferred for the great bulk of ophthalmoscopic work.

The Lens Series.—Another point in which convenience has been sacrificed for the supposed ability to more accurately measure refraction with the ophthalmoscope is in the number of lenses employed. The excesses in this direction are sometimes almost ludicrous, and become entirely absurd when put forward as the especial virtues of an instrument. Others who have made considerable practical use of the ophthalmoscope have noticed this and referred to it; for instance, Knapp (*Archives of Ophthalmology*, 1895, p. 552) in commenting upon the double-disc ophthalmoscopes of Loring and Knauer, speaks of them as having "a superfluous wealth of glasses." "These instruments are less inconvenient than other double-disc ophthalmoscopes, but with regard to easy handling are still inferior to the single-disc instruments, and these can be made to carry a number of glasses sufficient for all purposes."

These instruments have lens series in which, for the weaker lenses, the interval is one-half diopter. I have never known an ophthalmoscopist who, I thought, could measure refraction with the ophthalmoscope to the accuracy of one-half diopter in a large proportion of his cases. I am sure that for the ophthalmoscopist who is not daily measuring refraction with the ophthalmoscope under most fa orable conditions, such an interval between the lenses is a delusion and a snare. He will do more accurate work with a greater interval, say of one diopter, which will cause a sufficient blurring when the correcting glass is departed from, to be certainly recognizable. Loring (Text-book of Ophthalmoscopy, Part 1, p. 111) says: "I feel convinced that it is very difficult, sometimes impossible, with young people to tell the lighter degrees of H (less than .75 D.) with the ophthalmoscope;" and on page 118, that degrees of astigmatism "as low as 0.75 D. can be *detected* by this test, provided the accommodation in both the observed and the observing eye is perfectly relaxed." Loring refers to the measurements of refraction with his own ophthalmoscope, having a sight-hole almost four millimeters in diameter. With the sight-hole reduced to improve the instrument for its primary uses, the value of the half-diopter interval between the lens is correspondingly reduced. There is, therefore, no reason for an interval of less than one diopter between the lenses of the instrument that is to be most useful for the general practice of ophthalmoscopy.

In the measurement of refraction with the ophthalmoloscope it is very important, indeed it is absolutely essential, for accuracy, that two lenses which are to have their effects compared as to blurring of the image, should be so arranged that the one can be substituted for the other without taking the instrument from the eye. Slight changes in the distinctness of the image are worthless when the change from one to the other can not be made instantly. On this account no lens series can be considered satisfactory which is not all available without removal of the instrument from the eye.

Focus of the Mirror.—Where a single mirror is furnished with the ophthalmoscope it has been customary to give it a focal distance of eight or ten inches. This would give to parallel rays a convergence of four or five diopters. The rays, however, that fall on the ophthalmoscope mirror are usually divergent from a point not more than twenty or thirty inches away, and such rays leave the mirror only two or three diopters convergent, so that they are perfectly focused on the retina of an eye two or three diopters hyperopic; and are almost perfectly focused on the retina where the

hyperopia is lower than this. When this is the case there is formed on the fundus of the eye examined a little inverted image of the source of light, which makes a most unsatisfactory area of illumination. To secure a more uniform, diffuse illumination, for a great majority of eyes which present low or moderate degrees of hyperopia, the rays entering the eye must be rendered more convergent, so that they will focus in front of the retina and form upon the fundus an area of comparatively uniform diffusion. The focal distance of the ophthalmoscopic mirror, to accomplish this, should be not more than three or four inches. If, for any reason it is desired to throw into the eye, as in myopia, rays that are less convergent or parallel, this may be effected with such a short-focus mirror by bringing the source of light close to the mirror.

A Modified Form of Ophthalmoscope.—In 1885 I

showed before the American Ophthalmological Society a new form of ophthalmoscope, and in the following year suggested additional lens series for it (*Transactions American Ophthalmological Society*, Vol. iv, pp. 111–361) which, with the arrangement of lenses in two slides moving vertically behind the mirror, allowed of the combination of lenses, and of a sufficient lens series completely available, without removal of the instrument from the eye. This form of instrument has since been widely used, and is still, in most respects, entirely satisfactory. But the lens series, the focal distance of the mirror and the size of its sight-hole then adopted, conformed closely to those of other standard ophthalmoscopes, and experience has shown more and more clearly that these were capable of considerable improvement. I, therefore, recently had made by Queen & Co., of Philadelphia, the instrument shown in the accompanying cut, upon the mechanical plan of the earlier instrument, with a mirror of four inches focal distance, having a sight-hole two millimeters in diameter, and with the following lens series:

Convex, 1, 2, 4, 6 and 15 diopters.

Concave, 1, 4, 7, 10 and 30 diopters.

These, by combinations, furnish the following lens series, every number of which is available without the instrument being taken from the eye:

Convex, 1, 2, 3, 4, 5, 6, 8, 11 and 15 diopters.

Concave, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 15 and 30 diopters.

As to the advantages of this lens series, we have already discussed the worthlessness of a shorter interval than 1 D. for the weaker lenses. The convex series furnishes each diopter to six, then skips to eight, and so on. It should be remembered that hyperopia of over six diopters is rare. Among 4,000 eyes I found only eighteen having more than this amount of hyperopia (*Trans. Am. Ophthalmol. Soc.*, 1889, p. 438). Then, too, by withdrawing the six diopter lens one and five-eighths inches from the eye it measures eight diopters of hyperopia, and at intermediate points measures all intermediate amounts. Really, for the measurement of refraction, no stronger convex than ten diopters is required in the ophthalmoscope, but it is convenient to have a stronger lens for the ophthalmoscopic examination of opacities in the cornea, crystalline lens and vitreous.

It will be noticed that the series of concave lenses gives each diopter up to ten. In the 4,000 eyes above referred to, 24 presented myopia of over ten diopters. But here again the variation of the distance of the lens from the eye enables a few strong concave lenses to measure every degree of myopia; thus the thirty diopter concave held one and one-fourth inches from the cornea measures but fifteen diopters of myopia, and at shorter distances from the eye measures intermediate amounts. If one wishes to be even approximately accurate in the estimation of high degrees of hyperopia and myopia with the ophthalmoscope, he must always measure the distance of the ophthalmoscope lens from the patient's eye, and allow for it; and this process is simplified by having a few well-chosen strong lenses.

It is doubtful if a more extended lens series than this was ever of practical advantage to the mass of ophthalmoscopists, and the accurate measurement of refraction with the ophthalmoscope by the direct method is of far less importance since the introduction of skiascopy. Every lens in a series that is not needed is a source of possible inaccuracy and a nuisance. It is just as important to have no useless lenses that must be run over in finding the right one, as it is to have at command all that are really needed.

TUBERCULAR PERITONITIS.

BY BYRON ROBINSON, B.S., M.D.
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At this time experiments are rife in every direction. Even the laity demand cause and effect and ask the question: "What is the practical effect of trial?" Peritoneal tuberculosis has interested me for years, and of late the apparent cure by abdominal incision and drainage.

After considerable observation for the past eight years in tubercular peritonitis, I must say that the so-called surgical therapeutics lack an essential base of explanation. I have posted about twenty cases of tubercular peritonitis, operated on some eight to ten patients and made some careful observations on three cases in Professor Senn's clinic, having therefore over thirty cases of quite careful observation.

To be short, in regard to the cases of abdominal section to relieve peritoneal tuberculosis, I will say that all recovered, except the sixth case, after the operation, and became so well that they left the hospital and passed into the unknown field outside the hospital, from which few report, and I have lost all trace of them. They regained a very large part of their health before leaving the hospital. The sixth case died, I think between two and three weeks after the operation, not from the surgical procedure, but from extension of the peritonitis due to tuberculosis. I unhesitatingly say that the tubercular peritonitis in the stages at which I operated appeared to be benefited in all, and at least temporarily improved all but the one case too far advanced.

The present state of the subject of peritoneal tuberculosis is entirely unsettled. Opinions have a wide swing, an extreme swing among surgeons, gynecologists and internal medical men. But so do all subjects until natural experiments force a more rigid standard of decision. It requires many experiments to learn a small number of natural laws. The more wild and varied opinions on any subject, the rarer the opportunities one has for testing his experiments. Ten years ago we relatively knew nothing of the subject in regard to its therapeutics. If I remember rightly it was an old veteran, the methodic and abdominal surgeon, Spencer Wells, who opened the abdomen of a patient possessing a tubercular peritonitis in 1865. In 1885, it seems to me, she was reported alive, twenty years after. This, of course, was a long forgotten circumstance and experiment. But people easily forget matters. It requires a tenacious grip to remember the long-continued effects of good and bad result.

The condition of some cases of peritoneal tuberculosis precludes any possibility of recovery by any known therapeutic agent. There are two forms which we meet in tubercular peritonitis, viz. (a) the dry form, and (b) the moist variety. The dry form appears quite red, congested, and presents large, thick, swollen diseased parts. The ligamentum peritonei is dense, but friable. In cases in which Dr. Lucy Waite and I performed laparotomy the disease had progressed very extensively, showing enormous pathologic products, and yet a year afterward present fair appearances.

The broad ligament with the tube may be thick and twelve to fifteen times their original size. The peritoneum was studded with large and small tubercles. Three weeks' drainage improved the patient very much. Some of the patients presented the most formidable conditions of callosal nodules, and yet were wonderfully improved. It would seem the dry form is amenable to treatment. The second variety is the hydrops peritonei tuberculosis, the moist variety. Ascites slowly arises and the abdominal cavity gradually swells. It is quite likely that it is the chief one of destruction.

In opening the abdomen one may not be able to see the innumerable small, fine miliary tubercles, but one can feel them. When large enough to see they look like small blisters studding over the omentum majus, mesentery and visceral peritoneum. After a certain time or size of the tubercle, degeneration occurs at its center and its caseous degeneration may result in an ulcer; when more advanced bowel perforation results.

On opening the abdominal cavity the first organ, in general, is the omentum majus, for it seems that the business of the omentum majus is to meet emergencies in the abdomen. It seems to be prepossessed of attempting to defend the abdominal cavity by meeting and monopolizing the invading disease. By tracing the omentum majus one is very liable to discover the primary tuberculosis, which in woman is so often from the Fallopian tubes. The omentum is like a man-of-war, it guards the ports against hostile entrance, it is the great peritoneal protector against infectious invasion and the surgeon's good friend to cover up the mischief his hands have wrought. It is asserted by Senn that we meet with peritoneal tuberculosis in the female the most frequently. This is not in accord with the peritoneal tuberculosis I found in 350 personal autopsies, for we found it more frequent in males. From the appearance of the subject it seems that they have other organs than the peritoneum affected.

The present trend in tubercular peritonitis is to perform an abdominal section; yet the very reason against such procedure is that we still know nothing about the real method of cure. And in truth, do we really know whether the section actually cured, or would the patient have done as well without the section? Pibram undertook the tedious labor of finding out how many died of tubercular peritonitis in the pathologic institute of the University of Prague, according to Vierordt, and he found that 165 out of 3,500 died of tubercular peritonitis, *i. e.*, about 5 per cent. A mortality of 5 per cent. from tubercular peritonitis is about what agrees with some other estimates. It seems that in one series of one hundred autopsies which the pathologists and internes of Cook County Hospital were kind enough to allow me to carefully examine during the autopsy, some six died of tubercular peritonitis and several others possessed peritoneums which suggested the same pathologic process, but died from other causes or from tubercles in some other viscus. Differences of opinion arise among physicians from differences of circumstance in life. The surgeon sees one kind of tubercular peritonitis, especially two forms, *e. g.*, large ascitic abdomen, not only enlarged by fluid, but by boggy masses arising from exudates or inflammation in the omentum or mesentery, both stiffening the mesenterium and omentum so that through emaciated abdominal walls the surgeon distinctly maps out the tumor. Now, just in these cases the surgeon operates, and it may be that this surgical cure which we do not understand is in just such cases. The gynecologist, to a certain extent, may be classed with the surgeon, but he is generally better able to understand the conditions from his more extensive experience in the abdominal cavity (in this country at least, where gynecology and surgery are becoming so widely separated).

Some of the cases reported in this paper appeared simply hopeless from tubercular invasion of the peritoneum. The most advanced cases and the most profoundly affected were those of the dry variety. They were all women but one; two of them, operated on by Dr. Lucy Waite and myself, showed the parts perhaps fifteen times thicker than normal. In one of them it is a year after the operation and in another some ten months; and reports are good. The tubes, broad ligaments and lower omental border presented immense shapeless masses with scarcely any ascites. One case is about three years old, in which Dr. Bertha Van Hoosen assisted. A point of some interest is that the omentum is frequently found at the primary seat of the tubercular peritonitis. It is not easy to explain the predilection of the omentum for the primary seat of peritoneal inflammation. It is absolutely astounding how a human being can live so long with such vast and serious lesions as tubercular peritonitis produces. The peritoneum may become an inch thick. Small and large ulcers beyond count with large tubercles stud the ligamentum peritonei, visceral and parietal peritoneum almost beyond conception. The mesenteric gland may become the size of a hen's egg, and one is amazed at the innumerable mesenteric glands which suddenly come into view in tubercular peritonitis, which normally attract little or no attention from size or number. Tubercular peritonitis is one of the best of nature's experiments to demonstrate the lymph node and the effort of the lymph nodes or glands to check the bacillary invasion. I have noted several large bowel perforations screened and protected by vast deposits of adhesions. It may be noted that these patients generally have other tubercular lesions, as pleuritis, pulmonitis and joint affections. They generally have a tubercular habit or shape and show to the clinician that they are subjects in which to suspect tuberculosis. It is well understood that lupus is a skin, or surface tuberculosis, and that it is quite amenable to surgical treatment, *i. e.*, a thorough curettement or application of the Paquelin cautery will relieve them for eight to twelve months. It may be that the surface serous tuberculosis which is so amenable to treatment is of a similar nature. It is not clear what drainage accomplishes. Does it relieve intra-abdominal pressure? Does it initiate changes in the stomata vera, the fluid regulators of the peritoneum? It may induce rapid multiplication of leucocytes, which swarm to the peritoneal surface and destroy the bacilli. I have injected the rabbit's peritoneum with Berlin blue suspended in fluid, and found that in ten hours the leucocytes have swarmed out on the surface and seized particles of Berlin blue and hastened back through the stomata into the lymphatics of the diaphragm. The leucocytes surround the particles of blue or coloring matter and it then becomes a foreign body no more. It is encapsulated in protoplasm. Of course these leucocytes may be out into the peritoneal cavity for something to eat, but they have not the discriminating powers to

decide what is food and what is not, so they seize any foreign body invading the peritoneum, whether it be in soluble coloring matter or vegetable microbes. The microbes the leucocytes may digest, englobe or destroy. Some leucocytes carry back into the diaphragmatic subserous lymph channels many particles equal to the 100 tubercle bacilli. Scores of leucocytes may be found loaded with particles of coloring matter lying in both straight, superficial and deep channels of the diaphragm.

It seems to me that the cure of tubercular peritonitis, if it be recognized as such, by incision and drainage (and iodoform) must rest back on the power of the leucocytes to fight the battle against invading microbes. In some cases there will be a deposit on the peritoneum sufficient to make it an inch thick. In other cases the adhesions are so dense and so extensive that several bowel perforations will be entirely protected by the adhesions. Surely no incision or drainage will benefit such; they are beyond the art of surgery.

The man who practices internal medicine sees the patient in another and very different condition. He is visited by patients with peritoneal tuberculosis of lighter grade. They are simply slightly ill, constipated, weak; sweat, have no appetite; occasionally sharp diarrhea attacks them. Examination of the abdomen reveals very little, no palpable tumors, omental and mesenteric thickening. In short, they are in a transitional stage between being compelled to stop labor and going to a surgeon. The different stages in which internal medical men and the surgeon find the cases of tubercular peritonitis in cities, cause different opinions as to the course of the disease and the results of therapeutics on the disease. My view is that the claim that abdominal section is a cure-all for tubercular peritonitis is not founded on facts, but founded on imagination. We do not understand how section cures it, nor has any one offered a satisfactory explanation. They claim that air passing into the peritoneal cavity produces the cure. Could they settle the fact by injecting air into the cases where microscopic examination had proved the presence of the tubercular bacillus? But we think we know to-day that tuberculosis is a curable disease, *i. e.*, it may be arrested and not kill a patient. Again, I think that many cases diagnosed and operated on as tuberculosis of the peritoneum are simply chronic peritonitis, and the drainage is the cause of the mystic cure. How many are injured by the abdominal section? Many are born to die unreported. How many cases are really tubercular peritonitis which are operated on and reported on in the ordinary journal?

Finally, what about the newer treatment of iodoform? Senn uses in the abdominal cavity two drams of a 10 per cent. iodoform-glycerin emulsion and claims it has curative effects. This emulsion is smeared over the affected portions of the peritoneum. It may be noted that others believe this valueless for treatment. It seems to do good work as an interosseous and parenchymatous injection, and if so, why not apply iodoform-glycerin emulsion to the peritoneum? Tubercular peritonitis is a surface tuberculosis and it yields the most readily to surgical treatment. Is it because it is a surface tuberculosis? We must not forget that the peritoneum is a great lymph sac and the endothelial layer rests on a bed of lymphatics. Has this anything to do with the curative effect of incision and drainage? What has visceral trauma to do with it? But there is no doubt that our observations are very defective in tubercular peritonitis, for doubtless many patients recover from it of whom we know nothing, and simply because we accidentally find one and operate, we think we have discovered a therapeutic agent. The month's rest in bed deceives us by its curative effect also; we are apt to overlook that. I call attention to the view that leucocytes may help the surgical procedure to fight the battle against the invading germs. For, really, tuberculosis is a benign disease and requires but a slight shock to check its progress. It, in this respect, resembles a growing uterine myoma whose existence is easily checked by a slight shock. Inflammation seems to be, from my experiments on the peritoneum, a production of leucocytes. It is a fight of the leucocytes against the invader, whether it be Berlin blue or microbes. The object of the leucocyte, a defender of invasion, is to digest or imprison the invader. Now, since the Berlin blue can not be digested, it is encysted, surrounded. Again, when the tubercle bacilli invade the peritoneum, the leucocytes surround it, forming what are known as tubercles, *i. e.*, the tubercles of the peritoneum are composed of leucocytes which endeavor to defend the organism. If the leucocytes are well fed or sufficiently numerous they will come off conquerors. Now, when the abdomen is opened in peritonitis a reaction arises from the trauma and the peritoneum is supplied for a season with much more blood than usual. This fresh supply of blood over-feeds the leucocytes or tubercles of the peritoneum, and the leucocytes with their renewed vigor digest or englobe the tubercle bacilli, hence the recovery from tubercular peritonitis; we may be able to do this same object by a simpler surgical procedure later. However, it seems that the recovery of the tubercular peritonitis with or without surgery must be credited to the leucocytes, the defenders of animal organisms against microbic invasion or inflammation.

BOVINE TUBERCULOSIS.

Read before the Chicago Pathological Society, March 9, 1896.

BY HENRY B. STEHMAN, M.D.

CHICAGO.

Tuberculosis in cattle has become a recognized factor in the production of tuberculosis in the human family.

The weight of evidence is rapidly accumulating to show that tuberculous food is directly responsible for the transmission of this disease in many individual cases. It is stated that of the mortality of the race 7 per cent. is due to tuberculosis, but the casual observer will readily see that this is but a partial statement of facts, for we all know that many cases with sufficiently pronounced lesions to produce death, are not classed in this category. The nature of many infantile diseases and lesions of important viscera in adults are only too frequently unrecognized. They are treated as inflammations of some sort, when in fact they are nothing more nor less than genuine tubercular affections. The prevalence and fatality of the disease makes it all the more important that we should discover and if possible prevent the causes and conditions which are active in its dissemination.

It is now admitted that food from a tuberculous animal, whether milk or meat which has been infected, may produce tuberculosis, and especially is this true in infants, in those greatly prostrated from some

febrile condition of a typhoid type and in those cases predisposed to the disease.

The investigations that have been made within the past two or three years, show that tuberculosis prevails pretty generally among our cattle and especially is this the case among our dairy herds. The reports which come to us from different States emphasize the fact that the affection is not limited to any special locality. Herds have been tested in which it was found that as high as 75 per cent. were affected, though this is exceptionable; nevertheless, it is not uncommon to find as many as 30 per cent. so diseased. The statement has recently been made that in the State of California (THE JOURNAL, Vol. XXVI, p. 240) 15 per cent. of the cattle are infected, but this estimate is far above the generally accepted opinion of veterinarians, who tell us that about 5 per cent. of the cattle of this country are tuberculous. In our own herd we found four diseased out of thirty-eight that were tested.

The opinion seems to prevail that the disease is most prevalent among the best bred herds, but the recent reports coming from the New York Board of Health show that of those condemned, the common stock more than out-numbered all the pure breeds (*Country Gentleman*, Vol. LXI, p. 231). Tuberculosis steals upon cattle as insidiously as it does upon human beings; in fact, in its incipient stage, or even when quite far advanced, whether it involves the thoracic of abdominal viscera, or both, physical signs are of little or no avail in making a diagnosis. It is only by the use of tuberculin that it can be positively detected. The disease may involve important viscera to a considerable degree and yet physiologic functions may not be impaired or the nutrition disturbed. It is only by the use of tuberculin hypodermically injected that the affection may be recognized by any degree of accuracy. The experiments at home and abroad have only strengthened the opinion of careful observers on the reliability of tuberculin as a diagnostic measure, and while it may not yet be recognized as an infallible agent, nevertheless the difficulty lies not in the value of the agent itself, but in the lack of experience and wisdom which is necessary to interpret the conditions which follow its exhibition and correctly differentiate them from pathologic or even physiologic symptoms which they closely simulate. The value of tuberculin lies in the fact that its exhibition produces a toxemia which manifests itself in a decided temperature rise where tuberculosis exists in an incipient or moderate state of development, but in those cases where the disease is far advanced no such reaction takes place. Fortunately, however, in those cases the symptoms are so manifest that the lesion may be recognized by the usual physical signs. The best authorities tell us that a characteristic reaction after the administration of tuberculin of two degrees above the normal is proof positive of tubercular infection (Bureau of Animal Industry). It only remains, however, to ascertain what is the normal temperature of each individual case, for as stated, there are various conditions, such as metritis, pregnancy, heat or handling that may increase temperature and thus modify the value of the initial observations. The temperature is usually taken by the rectum; from four to six observations are made, from twenty-four to forty-eight hours previous to the injection of tuberculin.

The temperature rise occurs from nine to sixteen hours after the inoculation, and if the toxemia is profound we find symptoms such as general weakness, coughing, animal refuses food, coat is rough, breathing is labored, forearms are extended, eyes are glassy, and in thoracic lesions characteristic signs may be easily recognized. In other cases enlarged cervical and mammary glands may also be detected. This temperature manifestation may last with slight variations for a day or so and then gradually subside. In ordinary cases the animal suffers considerable from the intoxication, and in many cases the pathologic changes are increased by the use of tuberculin, so that they pass into a rapid decline.

Where, however, no tuberculosis is present the injection does no harm as was formerly supposed. It was our experience that in the healthy cattle within forty-eight hours all the functions were normal, and in a few days the milk flow was reëstablished. This limited observation is confirmed by a large array of testimony (Pennsylvania Reports), and consequently this objection holds good no longer as an excuse for refusing to try this test. Besides, even though tuberculin is derived primarily from the product of the bacillus of tuberculosis, it undergoes such changes in course of its preparation that the article we call tuberculin is nothing but a chemic substance, and of course can not originate tuberculosis. Recent reports (State of Iowa) from those who have studied the subject carefully show that tuberculosis is not transmitted from parent to offspring; this observation among cattle has long since been observed in the human family by the profession. The disease spreads among herds either by the indiscriminate housing together of healthy and diseased cattle, or the infection is produced by the the milk fed to calves from tuberculous cows.

The report of the English Royal Commission appointed to investigate this subject, says: "We have obtained ample evidence that food derived from tuberculous animals can produce tuberculosis in healthy animals." It says further: "The ordinary processes of cooking applied to meat which has got contaminated on its surface are probably sufficient to destroy the harmful quality, but it would not avail to render wholesome any piece of meat that contained tuberculous matter in its deeper parts. The boiling of milk, even for a moment, would probably be sufficient to remove the very dangerous quality of dangerous milk." The Commission reports that "while the recognition of tuberculosis during the life of the animal is not wholly unattended with difficulty—nevertheless in most cases it can be detected with certainty in the udders of milk cows." But more recent investigations prove that milk may be tubercular and yet the udder of the cow show no evidence of disease.

Roth (*Mod. Med.*, Vol. IV, 12, p. 314) tested thirty-six cows which showed no evidence of disease in the udder and in twelve the milk and cream contained tubercle bacilli. Twelve pigs were fed upon the same milk and five became diseased. Twelve out of eighty-eight guinea pigs inoculated with tuberculous milk became tubercular. Of twenty-one calves fed upon the same milk eight became infected.

H. W. Conn (*Hoard's Dairyman*, Vol. XXVI, No. 51, p. 1006) states that recent statistics from abroad show that of 45,000 swine slaughtered for market 11 per cent. were found tuberculous, and that a more careful study shows that of the swine fed at creameries upon the skim milk and slime of the centrifugal machine from 60 to 70 per cent. were found diseased.

Further, it has been found that butter made from cream gathered by the separator contains more bacilli than that made from raised cream.

The specimens which I present were removed from the animals slaughtered; you will notice various structures, lungs, liver, diaphragm, pleura, mediastinal, mammary and mesenteric glands, all showing various degrees of tubercular lesion. To me, however, the most gratifying specimens are the small mesenteric glands which scarcely show sufficient tubercular degeneration to be recognized, and yet this is all the macroscopic evidence we could find showing tubercular infection. These specimens were removed from a cow 6 years old, weight 1,100 pounds, Durham. Temperature observation previous to testing averaged 101.6 degrees; the first observation nine hours after injection was 102.6, eleven hours after 104.2, fifteen hours after 105, and then it dropped to 104, varying from this to 103.2 for twelve hours.

The searching quality of tuberculin is most strikingly shown in this test, and it speaks volumes in its favor. For it is evident that if tuberculin will cause reaction in an animal so slightly affected, by its intelligent use one can with great confidence rid a herd of all infectious animals. The specimens showing the extensive distribution of tubercular nodules over the lung and diaphragm illustrates to what degree a cow may be tubercular and yet show little or no constitutional disturbance.

To my mind this was a case of unmixed infection. This cow was a Holstein-Friesian, 8 years, weight 1,100 pounds, well nourished and gave a large flow of milk. Her average temperature previous to testing was 102.3 degrees. Nine hours after injection temperature was 107, eleven hours later 107.2, thirteen hours later 106.2, fifteen hours later 105.2, the temperature gradually receding to 104, where it remained for a number of hours. Previous to the exhibition of tuberculin this cow would not have been thought of as tubercular. There were no cervical glands involved, the udder was normal and upon auscultation the signs were negative. After injection, however, auscultation revealed signs which only could be produced by a pathologic lesion such as I now demonstrate.

DISCUSSION.

DR. E. R. LECOUNT—I would call attention to the fact that not only the milk but also the meat of tuberculous cows is dangerous. In certain experiments reported by Strauss the beef from tuberculous cattle which showed nothing wrong to the naked eye, was submitted to the temperature ordinarily used in cooking such meat, and then injected into guinea pigs and rabbits, producing typical tuberculosis in which the tubercle bacilli were found. A mere inspection of the meat, therefore, is insufficient to demonstrate its harmlessness.

TWO CASES OF PERNICIOUS MALARIA WITH RELAPSE.

Read before the Chicago Pathological Society, March 9, 1896.

BY JAMES B. HERRICK, M.D.
CHICAGO.

In the reports of pernicious malaria I would direct attention to the following facts:

1. The comparative rarity in this climate of the pernicious type of malaria.

2. The somewhat unusual complication in an adult of convulsions (Case 1).

3. The occurrence in the child of convulsions oft repeated and resembling the petit mal of epilepsy and yielding only to quinin.

4. The ready explanation of the cerebral symptoms, afforded by recent pathologic studies.

5. The illustration of the necessity of blood examination as an aid to diagnosis.

6. The course of the temperature in Case 1 characteristic of the pernicious tertian fever, prolonged stage of fever, precritical rise, etc.

7. The relapse (Case 1) with change of type to the quotidian.

8. The lesson that even yet needs an occasional enforcement of the specific effect of quinin.

COMA; FACIAL PARESIS; CONVULSIONS; RELAPSE; RECOVERY.

Case 1.—Nov. 9, 1895, there was admitted to the County Hospital to the medical service of Dr. Norden, to whose kindness I am indebted for the privilege of seeing and reporting the case, a young man who was in such a condition of stupor that no history could be obtained. Nor could those who brought him to the hospital furnish any facts concerning the duration of the illness or its past course.

The face was somewhat flushed, the skin dry, the pulse 108 and rather weak, respiration accelerated, 24 to 40. The temperature was 104 degrees F. There was no exanthem. No bruise, mark or other evidence of injury, and no focus of suppuration could be found. No enlarged glands were detected. The tongue, while moist, was heavily coated; the patient was too stupid to protrude it.

The examination of the head was negative save for a slight paresis of the facial muscles on the left side. The retina was negative. The lungs and heart upon physical examination revealed nothing abnormal. The limbs, the osseous and muscular systems were negative. The urine contained neither albumin, sugar nor casts. The only positive finding was an enlarged spleen, the edge of which was distinctly palpable, two finger's breadth below the costal arch. The temperature on admission at 4 P.M. was 104. The next morning at 2 o'clock it was 98.8, pulse 94.

Late in the evening of the same day an examination of the blood showed the plasmodium malariæ. Dr. Lemke, the house physician, who made the examination, found but a solitary parasite in the four slides examined. But this was so unmistakably the malarial organism that the diagnosis was beyond question. The parasite was endoglobular, somewhat irregular in contour, filled about one-half of the rather pale red corpuscle and contained fine, actively moving, dark pigments.

November 10: In stupor; temperature normal.

November 11: 12:15 A.M., chill lasting one and one-half hours. Patient during chill did not shake violently. Axillary temperature after chill 104.2. Patient very stupid. At 8 P.M. temperature 105. Quinin sulphate, gr. xv, was ordered to be given at 4 A.M. and at 4 P.M. for six doses; also five drops of Fowler's solution three times a day.

November 12: 4 A.M., convulsion lasting about two minutes. Pulse 100; temperature 98.6, respiration 28. 2 P.M., quinin bisulphate gr. xv, given hypodermically. 3 P.M., convulsion lasting three minutes; urine negative. 6 P.M., vomited.

November 13: 4 A.M., temperature 100.2; no chill; quinin gr. xv.

November 14: 8 A.M., pulse 68; temperature 95.4 (taken twice in axilla and twice under tongue); respiration 18; vomited breakfast.

November 15: Still somewhat dull.

November 16: Considerably brighter; given clothes.

November 18: Mental condition much improved. Denies ever having had convulsions before entrance to the hospital. Says was sick four or five days before being brought to the ward. Had pain in the side and legs; vomiting; severe headache. Has no remembrance of how he came to the hospital. Does not remember chills or fever. During the summer of 1895 was sick in hospital in St. Louis. Does not know exact nature of illness. Spleen still palpable.

The record does not show the temperature between November 20 and December 2, during which period the patient was helping about the ward and kitchen. During this time he did not take quinin.

December 2: Noon, chill; temperature 104; quinin begun.

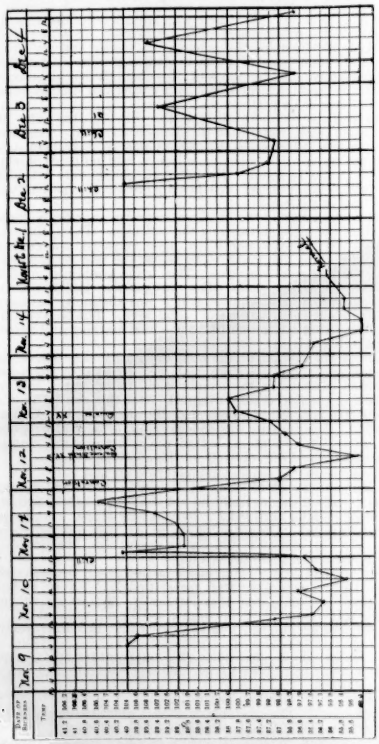
December 3: 11 A.M., chill; temperature 102.8.

December 4: 3 P.M., temperature 103.3.

December 5 to 8: Temperature normal. Patient left hospital at his own request.

This case presents several points of interest both from a clinical and pathologic standpoint.

Mode of Infection.—There is no definite knowledge of when or how the primary malarial infection occurred, though it was presumably in the south. The majority of the cases seen in Chicago are, I think, either imported malarias, drainage-canal cases, or the exacerbations of the disease in those infected long before, and in whom we are forced to assume the disease has remained latent, though what is the true nature of the so-called latency is as yet unsettled. Still, there are seen occasionally, developing in our city's midst, unquestioned cases of paludism in which one is at a loss to know where to look for the source of infection.



Temperature chart, Case 1, showing on November 11 precritical elevation of temperature, followed by pseudo-crisis. From November 14 to December 1 the temperature was normal and is not shown. The relapse is shown beginning December 2. December 5 the temperature was normal and remained so for three days, at which time the patient left the hospital. Some quinin was given by the mouth between November 10 and 14, but much of it was vomited.

Value of Blood Examination.—The case illustrates the positive value of blood examination. Without such an examination a diagnosis in a case of this character, in a supposedly non-malarial district and with no previous history would be at the best guess-work. One would be hesitating between cryptogenetic septico-pyemia, cerebral abscess, meningitis, concealed pneumonia, etc. With the blood examination the diagnosis is a matter of certainty, treatment is clearly outlined and followed by brilliant results. We may, with reason, say that death was averted by the vigorous exhibition of quinin in this instance.

The Parasite.—While a more thorough study of the parasite would have been desirable, being prevented largely by the necessity of early administration of quinin, we may fairly conclude that the type of organism was the æstivo-autumnal. The paucity of plasmodia in the peripheral blood, but one organism being found after careful search in four specimens, argues in favor of the estivo-autumnal type, where the parasite is found in far greater numbers in the visceral blood. One is scarcely warranted in asserting, from the inspection of a single endoglobular parasite, half-filling a somewhat pale red corpuscle, the parasite containing a small amount of fine pigment in active motion, that the parasite is of a certain definite variety. Yet this description fits some of the larger forms of the estivo-autumnal type better than it does the half-ripe forms of the tertain or quartan.

The Temperature.—The course of the temperature is that of severe estivo-autumnal fever. During the first attack, the severe one, the paroxysms were of the tertian type. The febrile period, it is to be noticed is the prolonged period of twenty-four hours characteristic of the pernicious forms of the disease. I would call attention also to one other characteristic of the temperature. After the chill on the morning of November 11, the axillary temperature was 104.2. Two hours later it had dropped to 102 degrees, and it rose again to reach its highest point, 105 degrees, sixteen hours later. This precritical elevation of temperature, with pseudo-crisis (calling to mind the pseudo-crisis of pneumonia) is emphasized by Marchiafava and Bignami in their description of the estival or pernicious tertian fever. Thayer and Hewetson in their monograph give a graphic representation of this same peculiar behavior of the temperature in the severe autumnal fevers.

Effect of Quinin.—The beneficial effect of quinin given hypodermatically is well illustrated by the accompanying temperature charts.

Relapse and Change of Type.—It is of interest also to note the change of type of the paroxysms during the recidivation beginning December 2. Here we see a well-marked quotidian type. The autumnal malarial fevers, whether passing under the name of pernicious tertian or estivo-autumnal fevers, are marked by an apparent lawlessness in the behavior of the temperature. This has not yet been found associated with a definite cycle of development of the parasite. The cycle may be of indefinite length or there may be various groups of plasmodia maturing at frequent intervals thus accounting for the great length of the paroxysm or the presence in some cases of a continuous or remittent fever. The quotidian type in this case may have been due to the destruction by the quinin of some of the weaker groups of plasmodia and the remaining of two groups having a cyle of twenty-four hours as in a double tertian. Thayer and Hewetson conclude as the result of their study of this form of disease that "the cycle of existence of this parasite has not been followed out in an entirely satisfactory manner" (p. 160).[1]

Pathology of Pernicious Malaria.—The explana-

[1] The Malarial Fevers of Baltimore, Johns Hopkins Hospital Reports, Vol. v. 1895. A most complete bibliography of malaria since the announcement of Laveran's discovery is given in the monograph.

tion of the cerebral symptoms—stupor, facial paresis and convulsions, is to be sought in the blood vessels of the brain. The cerebral phenomena of malaria have been explained at various times on the score of congestion, of melanemia with pigment emboli in the capillaries (Planer 1854, Frerichs and others), and of endothelial swelling of the cerebral capillaries and consequent narrowing of the lumen of the vessel (Kelsch and Kiener). Since the plasmodial epoch, however, these manifestations have been regarded as due to the toxemia that undoubtedly accompanies hemic plasmodial develpment, or to the organic disturbances produced in the encephalon by the aggregation in the vessels of infected corpuscles.

While not denying the possible agency of toxemia in the production of malarial delirium, coma, convulsions or paralysis, one can not overlook the fact that in numerous instances there has been disclosed such plain obstruction of cerebral vessels by impacted infected corpuscles as to make it unnecessary to invoke the aid of an intoxication hypothesis. Such palpable mechanical interference with circulation must seriously alter the nutrition and consequently the functions of the brain. At times aphasia, local paralysis or convulsion point to a distinctly focal brain lesion. The physicians in our Southern States not infrequently describe cases of this sort. In the case in hand there was a slight facial paralysis. Marchiafava in a case with bulbar symptoms found occlusion of the medullary vessels by plasmodial thrombi. Danilewsky[2] found in the blood of a patient with paludism a large, free, semilunar form, evidently from its pigment, a hemocytozoön. In width it was nearly the diameter of a red blood corpuscle; in length it was about three times the diameter of a red corpuscle. He calls attention to the possibility of a mechanical obstruction of a capillary or arteriole by such a large body, with marked consequences if the vessel were in the medulla. So that circulatory obstruction would seem to be the cause of many of the cerebral symptoms in pernicious malaria.

The Italians, Marchiafava and Celli, and Bastianelli and Bignami have called attention to the fact that the infected corpuscles red and white, particularly in the cerebral vessels, can be seen lining the vessel wall, perhaps as Mannaberg[3] suggests because of a certain acquired viscosity. Circulatory obstruction and thrombosis would thus be favored. Mannaberg depicts from some of Golgi's specimens, cerebral vessels lined and filled with infected corpuscles both pigmented and unpigmented. Dock[4] also shows a microphotograph of a cerebral capillary with numerous pigmented corpuscles.

Minute hemorrhages from vessels thus thrombosed are mentioned by many, *e.g.* Bastianelli and Bignami, Mannaberg, Golgi, Dock, Councilman and Barker. Attention may be called, in passing, to the finding of similar capillary and arteriolar thromboses in other than the cerebral vessels. In cases where gastric symptoms have been pronounced, the vessels of the stomach have been found plugged with infected thrombi.[5] The same condition has been found in the intestinal vessels. It is still unsettled why, in a given case, the infected corpuscles select the vessels of a certain organ or certain vessels of one organ and shun others.

Rarity in Chicago.—So far as I can learn this is the second case of pernicious comatose malaria admitted to the County Hospital in the last few years, *i.e.*, since systematic examination of the blood has been made in all suspected cases. During this time scores of patients with malaria, chiefly from the drainage-canal district, have been seen in our wards.

COMA; EPILEPTIFORM CONVULSIONS; RECOVERY.

This case was seen in consultation with Dr. M. H. Stephens, to whom I am indebted for many of the facts.

Case 2.—Louise T., 5 years; native of Canada. Said to have lived in malarial district. Mother neurotic; father died of cerebral hemorrhage. Frail, nervous, poorly nourished as a babe. "Brick-dust" in urine. At 15 months, convulsions lasting from 10 P.M. to 7 A.M., followed by fever which mother said was "typhoid pneumonia." Dec. 31, 1894, 10 P.M., convulsion followed during night by a second one. Regained consciousness only after many hours. History of fever somewhat doubtful. Many attacks of petit mal at this time. These are said to have continued with more or less frequency until the fall of 1895.

Oct. 17, 1895, at noon, seized on the street with convulsion. Regained consciousness at 8 P.M. Dr. Stephens administered chloroform to ward off what appeared to be threatening convulsions.

October 18: Temperature A.M. normal.

October 19: 9:30 A.M., chill; temperature at noon 104.5.

October 20: Forenoon, chill; temperature 103.5. Between 4 and 6 P.M., normal.

October 21: Temperature 105.2; no further chills; temperature irregular from this on, varying between normal and 104.

October 22: Patient seen in consultation with Dr. Stephens.

Examination.—Mind clear, urine negative. All organs negative save an enlarged and plainly palpable spleen. No typhoid spots. Next day, October 23, blood examined and a single hyaline endoglobular body with small amount of blackish pigment found; this believed to be the malarial plasmodium.

October 26: Temperature 101 degrees at noon, following this normal. The later history of the case is best learned from Dr. Stephens' letter of Dec. 23, 1895:

Dear Dr. Herrick:—Your inquiry regarding Louise T. is just received. I am very glad to say that the child is doing well. The quinin, two-grain doses, three times a day, was continued for about a week. Then the dose was reduced. The fever rapidly disappeared and the little girl was out in about two weeks. She had no "petit mal" attacks from time of her severe convulsion at the beginning of her illness, until about two or three weeks ago. She had had no quinin for about a month. Had been on syr. ferri iod. and syr. hypophos. co. About two or three weeks ago she began having mild attacks beginning with one or two a day and increasing rapidly until she had from twelve to fifteen during the day. For a time I kept her on sod. bromid and also liq. sodii arsenitis, with no effect. Began giving quin. sulph. gr. i three times a day about a week and a half. She improved rapidly and is now free from the mild attacks.

Yours sincerely,

M. H. STEPHENS.

I regard this case as malaria for the following reasons: 1, lived in malarial region in Canada; 2, the previous febrile attacks attended by convulsions from which recovery had taken place, may well have been malarial, their repetition tends to exclude masked exanthemata, pyemia, malignant endocarditis, cerebral abscess, etc.; 3, remittent fever and chills; 4, enlarged spleen; 5, exclusion of other diseases; 6, yielding to quinin; 7, the detection of the plasmodium.

It is perhaps assuming more than can be proven to say that all the epileptiform attacks were due to malaria. But it seems warrantable to assume that in a neurotic child, the malarial infection acting upon an irritable cortex was the exciting cause of an outbreak of an otherwise dormant epilepsy. The prompt response of the petit mal to quinin, when bromids, etc., had failed, is very significant of a persistent mild

2 Danilewsky, für Kenntniss der Malaria-mikroben bei Menschen. Centralblatt f. Bakt. und Paras., xviii, No. 8, Sept. 19, 1895.

3 Mannaberg, Die Malaria Parasiten, p. 161.

4 Dock, Pernicious Malarial Fever, Amer. Jour. Med. Sciences, 1894.

5 Barker, A Study of Some Fatal Cases of Malaria, Johns Hopkins Hospital Reports, Vol. v, 1895, p. 239.

malarial toxemia, that might be entirely symptomless and overlooked were not the child predisposed to cortical irritation.

Krafft-Ebing[6] records a case resembling in some particulars the one I have reported. The case is of such interest that I give a synopsis of it:

Male, 29 years, rheumatic, with mitral lesion. August, 1886, intermittent fever, treated for three months; no epilepsy, no delirium. June, 1888, relapse. During fever fell and injured right mastoid process. Since then muscae, dimness of vision. Two days after injury slight attack of unconsciousness. July, two attacks. August, two attacks. September: Daily attacks of unconsciousness with convulsion; fever and delirium; no aura; no scar tenderness; cranial nerves, retina, sensibility, urine, all negative. Slight amblyopia; no hysterical stigmata. Spleen enlarged and easily palpated. February 17, 1891: Chill and convulsion. Up to March 8, there were daily several attacks with convulsions. The delirium that played a prominent part is accurately described. Fever persistent. March 8: Quinin, gr. v daily. March 16: Quinin, gr. xv daily. Temperature gradually fell to normal, spleen decreased in size and on April 1, patient left hospital apparently well.

April 10 reëntered hospital with large spleen, and fever. Repetition of epileptiform attacks with delirium. Recovery May 15, under quinin.

Symptomatically this was an epileptoid neurosis. Naturally traumatic epilepsy had to be considered. Krafft-Ebing regards it as a case of masked malaria in which an injury to the head determined the point of the malarial attack, making of the brain a *locus minoris resistentiae*. Unfortunately no blood examination was made.

DISCUSSION.

DR. L. L. MCARTHUR—I would ask if in looking up the literature of the subject you have found anything in regard to suppression of urine by occlusion of the vessels of the kidney from the plasmodium? The reason I ask the question is, that, during the present week, I have had a case of malaria poisoning of the pernicious type referred to by Dr. Herrick, develop in a patient convalescing from a hernial operation at the Chicago Hospital, under the best of sanitary conditions. It is quite inexplicable how it may have originated. The temperature ranged extremely high, 103 to 105.5; the blood was laden with plasmodia, as shown by Dr. Frank Johnson. There was persistent vomiting, with pain in the back so marked that my attention was turned chiefly to the kidneys; the quantity of urine voided being eighteen ounces in twenty-four hours, heavily laden and highly colored; no albuminuria, no blood, no casts. But the plasmodium being found in the blood and the fever yielding to quinin, made me think that it was a malarial affection of the kidney. Possibly an embolic effect of the renal vessels, as suggested by the paper.

DR. SANGER BROWN—I would ask Dr. Herrick if in looking up the subject he has found that the plasmodium is discovered in patients who are not subject to malaria, or who have none of the positive symptoms of the disease. I saw in consultation a month or two ago an interesting case in which a man of 60 had attacks of unconsciousness, which were repeated several times in the course of three or four days. In the intervals he was not quite clear mentally. The question arose as to whether they were preliminary to a stroke of apoplexy, that is, small hemorrhages, or not. His son, who is quite an accomplished pathologist, made a careful examination of the blood and found the plasmodium in several slides. About a week after this the man had an attack of apoplexy which was fatal. If the blood had not been carefully examined in this case and the plasmodium found, it doubtless would not have been thought of attributing the symptoms to malaria. It would be regarded simply as the premonitory or preliminary light attacks of apoplexy or cerebral hemorrhage. I would also ask whether in the comparative number of plasmodia found in the accessible blood the examination bears any constant relation to the severity of the malarial symptoms, assuming that the cases which have been cited were cases due to malaria. If the symptoms were due to malaria, it would seem that they were severe, and the plasmodia ought to have been very numerous.

DR. D. W. GRAHAM was reminded by Dr. Herrick's paper of an experience some years ago before the plasmodium had been demonstrated. The patient while spending some weeks in Louisiana, when malarial fever was very common, had daily chills, and on his return became comatose and hemiplegic. He was given large doses of quinin with the hope that his condition was due to malaria. Although thought to be a case of cerebral hemorrhage by the consultant, consciousness soon returned and the hemiplegia passed away with the exception of a slight weakness of the afflicted arm. The effect of the plasmodium on the cerebral circulation, as given by Dr. Herrick, would seem to explain in a very satisfactory way this and many similar cases.

DR. WM. HESSERT—Dr. Herrick has brought out many important points in his paper, one of which is the examination of the blood in all cases of doubtful diagnosis, and even in cases where the diagnosis is more or less positive. Having had occasion to examine blood very frequently, I have come across phenomena, an explanation of which I have been unable to offer. For instance, I have seen minute particles of freely mobile material consisting of fine granules, these particles being in active motion. I have found bodies of different sizes and shapes in the blood. Some were dumb-bell shaped, others more or less biscuit shaped, and still others that were spherical. They were evidently not blood-plates, being opaque and yellowish in color, and not collected in clumps. The motion of these bodies was rapid, and I have been unable to tell whether they have ciliary appendages or not. In some instances I have found cilia, and for instance some in my own blood had cilia, and I certainly had no malaria. I have been unable to stain these bodies, which is an important point. I would like to get information from Dr. Herrick as to whether he has seen these phenomena himself. Some of the granules I speak of may be explained in this way, namely, I have seen eosinophilous cells in fresh slides break up, the granules becoming free and scattering through the field; but the nature of the other bodies I have been unable to determine.

DR. ROBERT B. PREBLE—My remarks are suggested by the question asked by Dr. Brown as to whether the malarial plasmodia have ever been found in the blood of patients who show no symptoms of malaria. Without answering this question, I would like to draw attention to a few bodies found in the blood, which may be readily mistaken for the plasmodium. The malarial plasmodia, in their typical forms, are easily and positively recognized; but it is not always easy to say, that a certain body which you see in the blood, is or is not a plasmodium. We gather from the wording of Dr. Herrick's paper that he was somewhat in doubt as to the malarial nature of the second case and he expressed himself very guardedly as to the nature of the body found in the blood and believed by him to be the plasmodium of malaria. A not infrequent error is to mistake a cremated red corpuscle for a plasmodium. One often sees a red blood corpuscle with a number of small clear circles arranged about the center of the disc of the corpuscle. The border of the disc is unchanged. This gives one an appearance somewhat resembling the sporulation form of the plasmodia. The difference, however, is so great that error is impossible, when the true segmentation figures have been seen once. Another thing, which may also lead to error, is the movement of the granules of the protoplasm of the white corpuscles. This motion is sometimes as active as that of the granules of the plasmodia and resemble it perfectly. The differences between a white corpuscle and a red containing a plasmodium, are so great that error is possible only when one forgets that the

[6] Zur Intermittens Layvata, Wiener Med. Presse, 1892, 1-4.

granules of the white corpuscle move at times. Dr. Hessert has mentioned the fact that auto-mobile bodies are often found in normal blood. The knowledge of this fact is not so general as it should be. These bodies show a great variety of forms and are often so active, that the slide must be kept in constant motion to keep them in the field of the microscope. They are, no doubt, frequently mistaken for the plasmodia. Before closing, I would like to draw attention to a very common error in the method of examination of the blood for plasmodia. It is common practice to dilute the blood with a solution of methyl blue, in this way staining the plasmodia. I believe that this is a fruitful source of error, for while it stains the plasmodia, which can be recognized as easily unstained, it also stains other bodies which can now be mistaken for the organism. Thus a member of the profession, who holds and deserves a high position, showed me a lymphocyte stained with methyl blue and which he believed to be a plasmodium. That error would not have been made if the specimen were unstained. This error is only an example of the many which may and do occur with this method of examination and I agree with Thayer and Hewetson that it is best to examine fresh specimens unstained.

DR. HERRICK (closing)—In answering the question of Dr. McArthur, I would say that plasmodial emboli have been found in the kidneys, chiefly, I believe, in connection with hematuria. As to the question asked by Dr. Brown with regard to finding plasmodia in non-malarial blood, I think that it is almost a contradiction in terms to say that plasmodia can be in the blood without malaria. We must assume, I think, that if a patient has the plasmodium in his blood he has malaria. Yet he may be free from symptoms. The question of latency of malaria is one that is by no means clearly understood. In patients who are entirely free from fever, who have been cured by quinin, the malarial plasmodium can sometimes be detected, and particularly are the crescent forms of the plasmodium persistent, long after all febrile manifestations have disappeared. This will call to mind the analogous finding of diphtheria bacilli in the throat in cases of diphtheria that clinically are cured, as well as the finding of tubercle bacilli in the sputum of those without symptom or sign of phthisis. The case which Dr. Brown speaks of might possibly be one of malaria with a thrombus due to infected blood corpuscles, a hemorrhage as the result of obstruction of a blood vessel by such corpuscles, an accidental combination of malaria and cerebral hemorrhage, or a mistake in recognizing the plasmodium.

The second question Dr. Brown asks is whether there is a relation between the number of plasmodia found in the blood and the malarial manifestations. That may be possibly true with regard to tertian infection, but with reference to the estivo-autumnal type, there is not that relation. The visceral blood, for instance, will contain a multitude of plasmodia, while the peripheral blood may be examined repeatedly and the plasmodia will be found absent. In the County Hospital case, the first one I reported, an unusually grave one, there is no question with regard to the diagnosis; yet in the blood on four slides only one plasmodium was found after careful examination. Dr. Graham's case may have been one of the severe cases of malaria with obstruction of a blood vessel from infected corpuscles.

Dr. Hessert and Dr. Preble have called attention to a very important point, and it is gratifying to see two gentlemen who have done so much in examining the blood frankly admit the great difficulties in recognizing plasmodia. As Dr. Preble says, when we have a typical ripe tertian organism it is recognized beyond the shadow of a doubt, yet there are many forms that are difficult of recognition, particularly the smaller ones that are but half developed, and the hyalin forms. And there are many things that can mislead the physician in examining the blood. I have seen in unstained specimens the eosinophilous granules referred to by Dr. Hessert. The coarse granules of the eosinophilous cells, when scattered about, resemble hyalin bodies. But staining brings them out clearly with acid rather than with an alkalin dye. They can readily confuse one. There are other forms that are apt to cause confusion, *e. g.*, the blood plates.

I was interested in reading an article by Paltauf (*Centralblatt f. Bakt. und Par.* xi, 1892, p. 95), in which he clearly demonstrates that several cases of malaria in children, reported by Hochsinger, were not cases of malaria at all. Hochsinger submitted specimens to Paltauf for examination, and he came to the conclusion that in every single specimen where Hochsinger had found plasmodia, he had mistaken blood plates for the plasmodia. I am glad that Dr. Preble brought up the question of staining a fresh specimen of blood. It seems to me it is a dangerous method of examination unless we have an absolutely fresh and carefully filtered staining fluid, and one that we know contains no foreign material. It is certainly wrong to carry about in the pocket a methyl-blue solution for several weeks, then place a drop of the methyl blue on the tip of the finger, prick through that, and thus get a specimen of the blood. Many of these solutions will contain microörganisms, as well as precipitates, and the examination in that way can not be as reliable as by the examination of a fresh specimen of blood.

REMOVAL OF THE UTERINE APPENDAGES FOR UTERINE FIBROIDS.

BY FRANKLIN H. MARTIN, M.D.

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Battey, Tait and Hegar independently conceived, performed and contributed to modern surgery the operation of removal of the uterine appendages. In 1865 Battey "conceived" but did not publish "the idea of producing an artificial menopause for the remedy of disease." His idea was published in 1872. Hegar operated on the first case with the object of establishing an artificial menopause, a few days before Aug. 1, 1872, the memorable date of Tait's first operation for the same purpose. Battey did his first operation just sixteen days later, or Aug. 17, 1872. Thus the time was ripe and three great men of three great nations, separated by thousands of miles, discovered the fact, independently of each other, and shook the tree of progress which has resulted in such an abundant harvest.

The removal of the appendages for the cure of fibroids of the uterus is based on the facts: 1, that removal of the uterine appendages eradicates the part of the economy in which resides the organ or center of menstruation and produces an artficial menopause; 2, that removal of the uterine appendages accomplishes a reduction of the direct blood supply to the uterus and thereby produces atrophy by depleting the organ.

ARTIFICIAL MENOPAUSE.

It is yet an unsettled question where the exact seat of control of menstruation is located. It is not the province of this article to enter into the heated discussion as to whether this remarkable center lies in the ovaries or whether it is situated in the nerve structure of the Fallopian tubes. It is enough for us to know that the menstrual center, wherever it lies, is eradicated, in the maximum proportion of cases, when every vestige of both ovaries and Fallopian tubes is removed. It is well that such is the case, because it would be an awkward and incomplete operation which would seek to leave either the ovaries or the tubes

These two organs have a function which of necessity is incomplete without both of them. It would be difficult to remove the ovaries without interfering with the circulation and position of the tube. It would be equally impossible to remove the tubes without interfering with the circulation and function of the ovaries. Then, too, a much more secure and desirable pedicle can be obtained when both organs are included in a ligature than is possible if but one of the organs is selected. Then, as the function for which each of these small organs is designed is dependent upon both, and the removal of both is easier and therefore safer than the removal of one of them, and when we take into consideration the liability of either of these organs to become diseased, if not removed when opportunity permits, there seems to be no further reason why both organs should not always be removed when it is desirable to produce an artificial menopause.

REDUCTION OF BLOOD SUPPLY TO THE UTERUS.

In a previous article we discussed the blood supply to the uterus. We found that the organ depended upon two sets of arteries for its nourishment, the uterine arteries and the ovarian arteries (Fig. 1). The normal ovarian arteries are a trifle more than half the size of the uterine arteries. They supply the ovaries, the tubes, the fundus of the uterus and anastomose

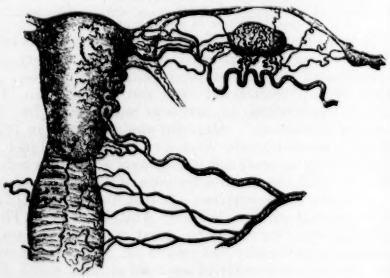

FIGURE 1.

with the uterine arteries which course along the sides of the uterus giving off frequent horizontal branches to the uterus. By referring to Fig. 1 it can readily be seen that the ovaries and tubes may be removed without including the main channel of the ovarian artery. Such a method of operating would deprive the removal of the appendages for the cure of fibroids of one of its chief features of benefit, viz., the reduction of blood supply to the uterus. For that reason special care should be maintained by operators adopting this procedure to include in all cases the main channel of the ovarian artery in their ligature. By tying this artery on both sides the large abnormally developed uterus is instantly deprived of one-third of its blood supply.

Dr. Byron Robinson, after witnessing my operation of tying the broad ligament from the vagina, recognized the value of this principle of cutting off blood supply to fibroid uteri, and afterward applied one of the principles of my operation through an abdominal incision, after having first removed the appendages, by tying the uterine artery as it courses up the side of the uterus to join the ovarian artery.

INDICATIONS FOR REMOVAL OF UTERINE APPENDAGES FOR FIBROIDS.

But a few years ago this was the operation of selection for the relief of uterine fibroids when an operation of the severity of a laparotomy was deemed a necessity. It is seldom performed at present except as an operation of *dernier ressort*, when laparatomy has been instituted with the object of removing the tumor and uterus and, because of contraindications, the latter operation is found inadvisable. The reasons for this change of position are:

1. The operation of vaginal and abdominal hysterectomy has been so perfected that in patients of ordinary strength, with tumors without severe complications, the mortality of hysterectomy is not materially greater than that of double oöphorectomy.

2. The operation of removal of the appendages fails about three times in thirteen recoveries to materially reduce the size of the tumor, and fails in one case in thirteen recoveries to produce an artificial menopause; while hysterectomy on the other hand is absolutely sure of curing every case of fibroid of the uterus, which recovers from the operation both of hemorrhage and tumor.

This materially narrows the field of operation which has done more to develop modern surgery than any other discovery of modern time, except the discoveries of Lister. The very enlightenment which it has created helps to make it obsolete. The operation now, in the hands of expert abdominal surgeons, is limited to cases: 1, where for some reason the operation is demanded because of prejudice against sacrificing of the uterus; 2, in cases where for some good reason quickness of time in operating is desirable; 3, in cases where unusual complications are revealed when the abdomen is opened which make hysterectomy impracticable; 4, in cases of small bleeding tumors in weak women who are near the menopause; 5, in cases of small hemorrhagic fibroids in weak women in whom laparotomy would not ordinarily be indicated but which are complicated with disease of the appendages.

THE OPERATION.

An abdominal operation is properly divided into five parts: Incision, removal of pathologic material, drainage, closure of incision and dressing.

The Incision.—After the skin has been prepared as described in Article VI, and sterilized towels have been placed around the field of operation, the patient is thoroughly anesthetized with ether and the operating corps is in its place; the operator standing on the left side of the patient, with a sharp scalpel makes an incision from above downward in the median line, from about two inches below the navel to two inches above the upper margin of the pubis, an incision about three inches in length. This incision should be unhaggled and should extend in depth through the skin, superficial fasciæ, the fat between the superficial fasciæ down to the deep fasciæ which immediately covers the muscles. In experienced hands but one stroke of the knife is necessary for this. If the hemorrhage is but venous, dry sponges only are necessary to keep the wound dry. If there are any arterial points of bleeding they are caught in the points of forceps by the assistant. The operator by another stroke of the knife incises the white deep fasciæ, and if this incision is through the linea alba, the subperitoneal space is entered, as will be indicated by the

bulging fat of this space. If the incision is to the right or left of the line the muscular coat of the abdominal wall will be exposed. The muscles are then separated by the handle of the scapel in a stroke from above downward which brings into view the subperitoneal fat. The knife is carefully drawn over this from above downward, and this followed by a sweep of the scalpel handle separates the fat and subperitoneal tissue down to the peritoneum. The peritoneum is now caught in two catch forceps which are held up and separated laterally so as to present a sharp elevation of that membrane. This is carefully incised with the knife. When the peritoneum is opened it will be indicated by its sudden elevation in consequence of the entrance of air. An experienced operator will frequently open an abdomen carefully in thirty seconds. If it is done well it matters little if it takes five minutes. It is not necessary to seek for the linea alba if it does not happen to lie directly in the center of the superficial incision. It is more important that the wound should be direct and the different layers parallel than that the muscles should not be disturbed. When the peritoneum is opened between the forceps the index finger should act as a director above and below the opening and the peritoneum incised with scissors the full length of the wound, being careful not to wound the bladder below.

FIGURE 2.

Next attach the peritoneal edges of the wound at the center of the incision on either side to the deep fasciæ with small catch forceps. This prevents peeling off the peritoneum from the parietes in any subsequent manipulations.

Exploration.—With the index finger of the left hand I now make my exploration of the abdominal viscera including the appendages. First the uterus is sought as a central landmark. From the uterus the finger is first swept to the left side along the Fallopian tube from the horn of the uterus. Just below the tube and above the broad ligament is the ovary. The opposite side is rapidly explored in the same manner. The exploration takes into consideration the size and position of the fibroid uterus, adhesions, the condition of the appendages, the possibility or feasibility of removing them and any abnormal developments.

Removal of the Appendages.—Our object, it must be remembered, in the removal of these organs must be to remove completely every vestige of ovary and tube and the thorough ligation of the main channel of the ovarian vessel. When the uterine tumor is not large, or if it has not developed into the broad ligament so as to spread out its folds and make it tense, it is an easy matter to ligate off the tube and ovary with one ligature. This is accomplished by lifting the tube and ovary with the loose broad ligament and making a pedicle of the infundibulo-pelvic ligament (Fig. 2 *a*), the ovarian ligament (*b*) and the Fallopian tube (*c*). The ligature No. 10 braided silk or No. 8 antiseptic catgut threaded in a round non-cutting needle is placed around the pedicle, never through it except as it penetrates and surrounds a portion of the infundibulo-pelvic (Fig. 2 *a*) and the ovarian (*b*) ligaments in order to prevent its slipping over the edge of the stump. If the ligature is allowed to transfix the pedicle at any other place than through the firm ligamentous tissues of the two ligaments mentioned, it is liable to produce venous oozing into the loose subperitoneal tissue beneath the constriction of the pedicle, resulting in small hematomas which frequently prove troublesome. After the ligature is placed the ovary and tube are drawn well up and the strand of silk or catgut is tied firmly, first with a double twist knot and then two single twists

FIGURE 3.

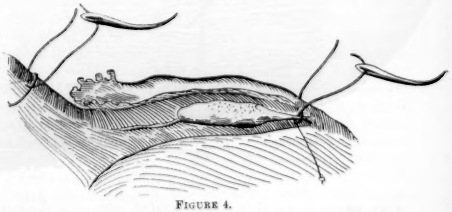

FIGURE 4.

and the ends cut short (Fig. 3). A pair of snap forceps is then placed on the pedicle outside of the ligature and the pedicle is severed about one-fourth inch from the ligature, the stump cauterized or rendered sterile with some strong antiseptic, this antiseptic removed by a moist sponge and the pedicle dropped.

If the uterus is considerably enlarged or if it especially develops into the broad ligaments, it is impossible to tie off the appendages of each side with a single ligature. This is because the loose folds of the broad ligaments of which the pedicle is ordinarily constructed, have been occupied by the enlarged fibroid uterus, and the ovary and tube are each flattened out on the surface of the tumor and are held fast by the peritoneum, which ordinarily acts as a mesentery to each, Fig. 4. Under such a disposition of affairs or any modification of it, the ovaries and tubes should be tied off by first ligating the neck of

the tube as near the uterus as possible after anchoring the ligature by a twist around the utero-ovarian ligament (Fig. 4 *a*); second by ligating the broad ligament outside the fimbriated extremity of the tube deep enough to include the ovarian artery, anchoring the ligature by a twist around the infundibulo-pelvic ligament (Fig. 4); third, after removing the tube and ovary the two peritoneal edges representing the broad ligament to which the tube and ovary are attached between the two ligaments already placed, should be united from one pedicle to the other with a running stitch of fine antiseptic catgut. This makes a perfect exsection of the appendages, and leaves the peritoneum perfectly closed with no tension on either of the pedicles (Fig. 5).

DISEASED APPENDAGES.

All cases, unfortunately, are not typical like the ones we have described. We often meet with diseased appendages when opening the abdomen for the removal of these organs in cases of fibroids of the uterus. A pyosalpinx, or an ovarian cyst, or abscess of the ovaries are often encountered. Almost invariably when these things do exist, localized peritonitis has rendered them adherent to surrounding tissues, the uterus, omentum, intestines or the peritoneum of the broad ligament.

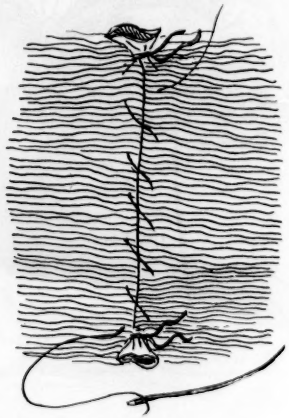

FIGURE 5.

When these complications exist, and we have decided upon the removal of the appendages for the treatment of the fibroid, we have before us the problem of enucleation and excision of the diseased and adherent organs. The enucleation of an enlarged pyosalpinx, or an ovarian abscess, or a tubal ovarian abscess, or adherent appendages the result of an old peritonitis where pus is no longer present, is accomplished in practically the same way. When the abdomen is explored the abnormal condition of affairs immediately becomes apparent. Frequently there is an inextricable mass; occasionally the outlines of the tube and ovary can be traced and they simply appear as enlarged adherent semi-fluctuating cysts; while rarely, the appendages, not materially changed from their normal size, will be firmly imbedded and adherent.

I begin my enucleation in these cases, by passing the index finger of my left hand, with the palmar surface directed forward, down behind the isthmus of the tube just as it is given off from the horn of the uterus, hugging closely the body of the uterus until I have reached Douglas's cul-de-sac. As a rule, at this place I will find a line of cleavage, as indicated by the adhesions between the tube and the uterus and the ovary, and the intestines and omentum posterior to the ovary and tubes. This line of cleavage, which as it gives way feels like two pieces of strong paper which have been stuck together with fresh mucilage giving way before pressure of the fingers between them, can be followed rapidly, first with one finger, then with two or more, until the whole adherent tube and ovary are freed and lie ready to be ligated off in the palm of the hand. This is the happy result in the majority of cases.

In a few cases, especially after long standing disease, the adhesions are strong and well organized. Here great care and patience must be exercised, in order not to go into an adherent bowel, or to the other extreme and leave a portion of the stroma of the ovary or a portion of the tube which may be just enough to prevent the menopause and thus make our operation a failure. Here, when the line of cleavage fails to yield readily, it is well to place the patient in the Trendelenburg position and separate the adhesions after exposing them to sight. With this precaution and the exercise of considerable care in manipulation it is seldom that one need fail to accomplish an enucleation.

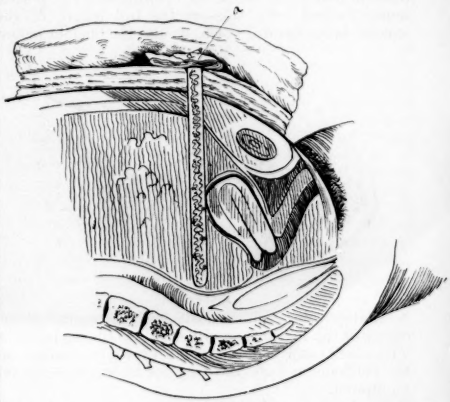

FIGURE 6.

When these adherent masses are once dug from their beds the stumps, after ligation, should be rendered perfectly sterile by the application of the actual cautery or strong chemic antiseptics. The parts should then be dried, and where it is practicable the raw surfaces should be covered with peritoneum.

Drainage.—If there is oozing from the raw surfaces caused by the enucleation, a glass drainage tube should be placed in the cul-de-sac of Douglas, the lowest point of the pelvis, while the toilet of the peritoneum is being completed and the abdominal sutures

are being inserted. Before the abdomen is closed the tube should be pumped out in order to ascertain if there is more blood oozing from the peritoneal surfaces than would naturally be taken care of by the peritoneum. If more than a couple of drams of pure blood accumulates in the few minutes that are required to make the toilet and insert the sutures, the tube should be allowed to remain, and the sutures tied so as to enclose it snugly. The tube should not be larger than an ordinary lead pencil, or about one-quarter of an inch in diameter. It should be long enough to project about one inch above the wound (Fig. 7). The abdominal dressings are then placed upon the wound around the tube and secured by sterilized muslin bands which are pinned to broad adhesive straps fastened to the sides of the abdomen at some little distance from the wound. Over the top of the tube is slipped a piece of rubber dam (Fig. 6 *a*) about 12 inches square, the tube penetrating the center of the sheet rubber. The tube is then pumped out with a small glass syringe with a long rubber nozzle which will reach to its bottom (Fig. 7). After finally emptying the tube a long narrow strip of sterilized gauze is carried to the bottom of it with a straight metal sound, a small amount of the same gauze is left as a loose dressing over the end of the tube, over this is folded the rubber dam and fastened with a sterilized safety pin, and over all this is placed a liberal dressing of sterilized cotton and finally over this a snugly applied bandage of sterilized cotton.

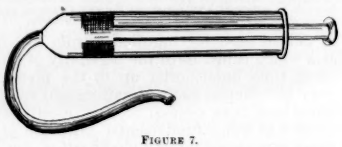

FIGURE 7.

Now when it becomes necessary to exhaust the drainage tube in an hour or two hours, it will not be necessary to disturb the wound dressing at all. The bandage is unfastened, the layers of cotton parted in the center and the rubber dam opened and spread out on the cotton, the capillary drain of gauze removed and the tube exhausted by means of the syringe, another strip of gauze inserted, the rubber dam refolded and pinned and the external dressings readjusted.

I go into the detail of my method of caring for a drainage tube in order to justify myself for using it. As understood by the majority of good surgeons, it is really a dangerous means of draining. But a few weeks ago, in a discussion in a prominent society on the subject of abdominal and pelvic surgery, I heard a surgeon of no mean repute condemn the glass drain and the suction pump, in unmeasured terms, when by his very language, he demonstrated his ignorance of the whole matter by saying that it was necessary to uncover the abdominal wound every time that the tube is exhausted. It is not necessary to uncover the wound at all to dress a glass drainage tube. It is not necessary to infect a glass drainage tube when uncovering it to exhaust it with the suction syringe, if the one doing the work is trained and competent. The nurse should be well trained. She should wash her hands to surgical cleanliness before loosening the bandage or removing the cotton over the end of the tube. She should rinse her hands in 1 to 1,000 bichlorid solution before unpinning the rubber dam; she should again rinse them in bichlorid before removing the capillary drain; she should take the glass syringe with its rubber nozzle out of a pitcher of 1 to 1,000 bichlorid solution, rinse it quickly in sterilized water, rapidly exhaust the tube, and eject the fluid into a small glass graduate which has just been removed from an antiseptic solution; when the tube is dry she should take the steel sound out of a dish of bichlorid solution, a strip of gauze out of a fresh supply from a sterilized package and insert it to the bottom of the drainage tube. She should again rinse her hands and then rapidly close the tube and replace the dressings. Such a procedure requires two minutes if done by an expert and intelligent nurse. I will agree with everybody that this kind of drainage can not be carried out by an ordinary nurse. But when well attended to it is the most satisfactory method of keeping dry the free abdominal cavity that we are as yet acquainted with.

CAPILLARY DRAIN.

Occasionally after extensive enucleation of diseased appendages we may be so situated that we have no experienced nurse to leave in charge of a glass drainage tube; at the same time we *must* drain, and must drain in a manner that the after-care of the drain can be attended to by one of little experience. In these cases combined capillary gauze and tubular drain, through the Douglas cul-de-sac, may be resorted to. A rubber tube one-quarter inch in diameter and about twelve inches long, and a quantity of sterilized iodoform gauze in eight inch strips cut the strong way of the gauze without knots, are selected. After insuring thorough cleansing of the vagina the operator, guided by an assistant's finger in the vagina, penetrates the posterior cul-de-sac into the vault of the vagina with a pair of sharp pointed scissors. The scissor blades are then opened and between them from above downward, on a pair of forceps, is carried an end of the strip of gauze and the rubber tube. The assistant grasps these in the vagina and makes gentle traction on them. The operator then loosens his grasp and catches the abdominal end of the tube with a pair of catch forceps. The tube is then drawn through until from two to four inches of its upper end, according to the extent of drain required, is left in the abdominal cavity. Enough of the gauze is drawn through to make a loose packing for the vagina. A small bunch of the gauze is left in the abdomen in the cul-de-sac, around the end of the rubber tube. It is loosely packed so that it will remain in the position in which it is first placed. The abdomen is then closed in the usual manner. The vaginal end of the drain is arranged by cutting the tube off at the vaginal outlet; and over the vulva and the end of the gauze is placed a liberal pad of loose sterilized dry strip gauze. Orders are given to change this outer gauze as often as it becomes moist. When at the end of twelve to twenty-four hours there is little drain, a portion of the gauze may be withdrawn from the vagina, and if the drain has been slight the tube may be removed at this time. In twenty-four hours longer, if the drain is still small or none at all, the drain may be completely removed. After the gauze has been removed, a liberal vaginal drain of gauze may be carried on the end of a forceps to the vault of the vagina. This may be removed in twenty-four hours. After this nothing further is required but an occasional vaginal antiseptic douche. If drainage is profuse after twenty-four to forty-eight

hours the gauze drain should be withdrawn more slowly.

Closing abdominal Wound.—I favor any method which will coapt all the tissues of the abdominal wound in the exact relation and to the same extent that they were originally. This can be accomplished by including all the tissues, skin, fat, superficial and deep fascia, muscle, subperitoneal fascia, and peritoneum in a row of silkworm gut sutures placed one-third of an inch apart. If I have some of my own specially prepared antiseptic catgut at hand, I frequently sew the peritoneal layer separately with a running thread of the gut and then include the remaining layers in the row of silkworm gut. This is especially desirable if one has a long wound in a hemorrhagic patient. It completely closes the abdominal cavity from any oozing from the abdominal incision. It also obviates the necessity of the silkworm gut sutures entering the peritoneal cavity, thus removing the remote danger of adhesions of the abdominal viscera to the points of peritoneum penetrated by the stitch, and danger of septic material gaining entrance to the peritoneal cavity along the route of the stitch, in case of external skin or mural suppuration. I am careful to include all the tissues of my wound in order that the abdominal walls after incision will be as thick at the wound line as at any other position. If it is not, there will be a concavity at this point on the peritoneal surface which will act as a point of resistance, and which will favor abdominal pressure on the wound and from which ventral hernia is more liable to result.

Before tying the silkworm gut sutures, I render the wound aseptic by washing thoroughly with 1 to 1,000 bichlorid solution (employing care that none of the poison enters the peritoneal cavity) and finally rinsing the wound with sterilized water. After tying the main sutures of the wound I always put in superficial stitches of fine silkworm gut wherever they are necessary in order to insure coaptation of the skin edges.

Dressings.—Sterilized iodoform powder mixed with boric acid is dusted over the wound. Loose sterilized strip gauze is placed over the wound, and several inches around it, and over this is placed a dozen thicknesses of sterilized sheet gauze. This is held in place by sterilized muslin straps which are pinned to broad bands of adhesive straps attached to the skin on the outer borders of the abdomen. This prevents the dressing from becoming displaced by any movements the patient may make, and it also supports the wound and takes the strain off the sutures. Over this is placed an abundance of sterilized cotton and over the cotton in turn is placed a snug abdominal bandage with a perineal T to keep it in place.

AFTER-TREATMENT.

For detail after-treatment I must refer the reader to my article which appeared in the JOURNAL two weeks ago.

Dressing the Wound.—The wound is not disturbed until the fourth day unless there are symptoms indicating that it is not doing well, viz., pain, fever, etc. At the end of the fourth day the nurse uncovers the wound carefully, washes it thoroughly with alcohol, and 1 to 2,000 bichlorid solution equal parts, with a wad of sterilized cotton on the end of dressing forceps. It is then dried carefully and redusted with sterilized iodoform and boracic acid. It is then recovered with fresh sterile gauze. On the seventh day the same process is repeated and the stitches removed. After that it is washed off in the same manner every day until it is perfectly well.

ANALYSIS OF CASES.

I have removed the appendages for bleeding fibroids of the uterus in 65 cases. These cases have all recovered from the operation. The history, subsequent to the operation of a large per cent. of these cases, I have been unable to trace.

Cases 26, 28, 47, 48, 55, 61, 64, or 14 per cent. continued to menstruate indefinitely after the operation. Their symptoms were so severe in 26, 47, 48, 55, or 6 per cent. of the whole number that hysterectomy was afterward employed. In none of these cases was hysterectomy found necessary because of increase of the growth of the tumor. In the remaining cases, so far as I have been able to trace them, the tumors have reduced in size, hemorrhage has ceased and the patients have been materially benefited while in a small per cent. actual symptomatic cures were obtained.

BASSINI'S OPERATION FOR INGUINAL HERNIA PUT TO THE CRUCIAL TEST.

BY E. J. SENN, M.D.

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The radical cure for inguinal hernia has been a problem which called forth the ingenuity of the surgeon from time immemorial up to the present day. The very fact that so many operations and varieties of technique have been devised, showed most positively that there was some fundamental principle at fault and every new operation or a modification was in the hope of correcting it.

Like all difficult topics in surgery which are to be solved, the error is made of delving in a world of intricacy and complexity for a difficult solution, when as a matter of fact a simple expedient is awaiting its discoverer under a misty cloud. Sims' speculum is a most excellent example, demonstrating what a wonderful scope of utility such a simple instrument fulfilled. Most elaborate instruments have been invented and every possible means imaginable promulgated for the disposal of the sac and the obliteration of the canal in hernia; but in each instance there was a great tendency for recurrence and consequently a great percentage of failures. These results were not due to a lack of the requisite instruments; but to a wrong principle as a working basis. Not until Bassini devised his operation for inguinal hernia, was the true defect overcome, namely, restoration of the obliquity of the inguinal canal. This operation has an anatomical surgical basis and marks an era in surgery. It seems incomprehensible that such a simple variation in technique from older procedures, should not have been resorted to earlier.

Professor Bassini of Padua first described his new method for the radical cure of inguinal hernia at a meeting of the Congress of Italian Surgeons held in March 1888. He reported 102 cases in which the operation was successful. At a later time he was able to present the following unprecedented statistics on cases upon which he operated himself or his colleagues.

Of a total of 251 cases, there was no return after a period varying from one to four and one-half years in 108 cases. In 131 cases there was no reappearance in periods varying from one month to two years. In four cases the result could not be ascertained and there was a recurrence in only seven cases. Such statistics from so reliable an authority should convince the most fastidious of the superiority of this operation over all others. Fortunately it is assuming its proper place in the minds of surgeons throughout the world and beyond doubt is the one which will hold prestige for all time. The operation is the one almost invariably selected in the surgical clinics of Rush Medical College and as yet I have heard of no relapses.

I wish to report the following case, as the operation was performed on a very unfavorable patient with a most excellent issue and which in my estimation is of more moment, as far as the reliability of Bassini's operation is concerned, than positive results in a hundred favorable patients.

F. J. N., German, age 67 years, consulted me Aug. 31, 1895, for double inguinal hernia of some thirty years standing. The hernia on the left side was small and gave rise to no inconvenience; but the one on the right side was as large as two fists when descended and caused considerable annoyance in spite of truss support. Upon examination I found a large internal ring, capable of admitting four fingers, in fact pressure atrophy of the truss had transformed an oblique into a direct hernia. Patient was in a bad physical condition, being of a very neurotic temperament; business reverses having brought on great despondency. Had multiple strictures in the deep urethra and both lobes of the prostate were enormously hypertrophied, necessitating daily catheterization. Urine ammoniacal and contained large quantities of albumin and casts. Arcus senilis well defined. In spite of contraindications, the patient was determined to risk an operation for the radical cure.

Operation: Patient was admitted into St. Joseph's Hospital and operation performed Sept. 1, 1895. Chloroform anesthesia owing to renal symptoms. Incision four inches in length, extending over the inguinal canal parallel with Poupart's ligament. The cord was isolated from the sac, and which was easily accomplished as there were few adhesions, although the patient wore a truss for many years. After enucleation the sac was incised and found to be empty. At the internal ring the sac was transfixed and ligated with catgut. To make sure double sure, another ligature was thrown around the sac, one-fourth inch higher up. The sac was then excised, the stump iodoformized and allowed to return. Four external silkworm sutures were then passed through the skin and Poupart's ligament on the one hand, then underneath the cord and through the conjoined tendon and outer border of the rectus muscle, aponeurosis of the external oblique and skin of the opposite side. These sutures were caught with forceps to be tied later on. The cord was next lifted from its bed with blunt hooks. The skin and aponeurosis of the external oblique at the edges of the wound were well retracted. The internal border of Poupart's ligament and the conjoined tendon were scarified with a point of a needle to a degree just short of causing capillary hemorrhage. The inguinal canal was then closed by uniting Poupart's ligament to the conjoined tendon and the external border of the rectus muscle with thirteen interrupted sutures of heavy chromicized catgut. Great stress was laid on putting two reliable sutures at the internal opening without causing compression of the cord. The cord was next placed in its new canal and the aponeurosis of the external oblique stitched over it with fine catgut. The external silkworm sutures *in situ* were now drawn taut, tied and the operation completed with a superficial row of interrupted horse-hair sutures approximating the skin. In dressing the wound care was taken to elevate the scrotum well with adhesive strips. The wound was hermetically sealed with collodion dressing.

After Treatment: Some four hours after the operation, when the nurse had momentarily left the room, the patient arose from his bed, went to the closet and evacuated his bowels. It was impossible to keep him in bed thereafter, and he took his daily walks *ad libitum*. Knowing that the damage, if any, was already done, and as he was a private patient, restraint by force would have brought censure upon me by friends, I left him to his own discretion. There were no unfavorable symptoms; the highest temperatures was 100.6 degrees, on the fourth day. The silkworm and horse-hair sutures were removed on the seventh day after operation. The patient was discharged from the hospital three weeks from the date of operation. Upon examination there was not the slightest impulse transmitted on coughing, and the canal was firmly closed throughout and remains so up to the present day.

Remarks: This case teaches us several important facts. In distressing cases of hernia, advanced age, even if accompanied with pathologic conditions, should not obviate the benefits derived from an operation for a radical cure. In this instance the operation selected, namely Bassini's, and which appears to be well nigh infallible, must be given its well-deserved merits. However, I wish to call attention to the modifications in technique which I employed. First, as regards the external silkworm sutures as tension sutures. Again, I took into consideration the age and other conditions present which had a very deteriorating effect on the tissues, and resorted to scarification of tendinous structures to induce a hyperemia and consequently increased tissue proliferation; although it is well known that connective tissues generally are the most proliferative of all tissues; especially is this the case with tendons. Often in hernia operations, where there are few adhesions to the sac, it is enucleated almost bloodlessly and extravasation is at a minimum. How illogical to bring such parts together for a permanent union without a raw surface! I think that the success in this case is largely due to this recourse. I do not think that the pillars would have held intact during the great strain exercised after operation before there was any chance for union; except for the great number of catgut sutures about one-fourth of an inch apart, as ordinarily but three to four sutures are deemed sufficient; also to the fact that there were four rows of interrupted sutures in all; by far more reliable than either mattress or continuous sutures. Bassini's operation has the advantage over all other operations in that the canal is changed into a curve instead of a straight line, consequently the greater resistance to a relapse. Bassini leaves his patients walk in a week or ten days after operation with no bad results; but even in a week's time the healing process has been well established; but when great force is exerted before any regeneration has taken place at all is a most excellent test.

THE ETIOLOGY, SYMPTOMS AND TREATMENT OF RHINOLITHS, WITH THE REPORT OF A CASE.

Read at the Annual Meeting of the American Laryngological, Rhinological and Otological Society, New York, April 17, 1896.

BY W. SCHEPPEGRELL, A.M., M.D.

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NEW ORLEANS.

Frances L., age 13 years, was brought to me by her mother, September, 1894, on account of a catarrhal discharge from the right nostril. She gave the following history:

About three years ago, without any cause which she could recall, the right nostril commenced to discharge as if from a continued cold. Soon afterward she became subject to headaches and felt as if she could not breathe, and could sleep only with her mouth open. A physician was called in, who took her temperature and, finding an elevation, pronounced it "malarial fever." She was given quinin and other remedies for malaria without success, there being always an elevation of temperature, varying from 99 to 101 degrees. Her breath was offensive and her appetite poor. After having tried antimalarial remedies and other treatments by several physicians, without any apparent improvement, the mother was advised by a friend to have the child examined by me as the symptoms from which she suffered might be due to "catarrh."

A rhinoscopic examination showed the left nostril stenosed by a deflected septum; the right nostril appeared atrophic, and on the floor of this nostril appeared a black mass, with an offensive odor, somewhat similar to the crusts so often found in ozena. An attempt to dislodge this mass by means of a silver probe, gave rise to a grating sound, and a diagnosis of rhinolith was made. After clearing the nostril by means of a nasal syringe, an attempt was made to remove the stone, but without success, as the anterior opening was not sufficiently large to permit the passage of the stone. A part of the calcareous mass was then broken off by means of strong forceps, and the rhinolith was then removed without much difficulty. The nostril had been anesthetized by a 10 per cent. solution of cocain, and the child suffered but little during the extraction. The stone was found to weigh 24½ grains. The child was given an antiseptic nose wash, and the fever and headaches did not recur.

The specimen was sent to Dr. Metz, the city chemist, who made a careful analysis of it; he reported that the nucleus in this case was formed of a blood clot, the composition of which was still distinctly shown in a spectroscopic examination.

From the history of the case, we conclude that this rhinolith had developed about three years ago; as the blood clot, from some unexplained reason, had been surrounded by a precipitate of calcareous matter from the nasal secretion. This had increased in size until the case was called to my attention. The stone was so large that it had deflected the septum, causing considerable stenosis of the other nostril. The right nostril had been atrophied from the pressure of the rhinolith and from the irritation of the fetid secretion surrounding it. In the efforts to clear this nostril of its secretion, the nasal mucosa had been lacerated by the sharp edges of the stone, giving rise to the absorption of septic material, and fever and headaches as the result.

Rhinoliths form an interesting part of the study of the diseases of the nose, not only on account of their rarity, but also on account of their uncertain etiology. The literature of these nasal concretions is, however, not new, as cases were already described in the 16th century by Mathias von Gardi (1502),[1] Bartolini (1654),[2] Clauder (1685),[3] Dekerue, Vitus Reidlinus, Ruysch (1733),[4] each of whom report isolated cases of rhinoliths. A collective study of this subject was not made until 1845, when Demarquay[5] made an elaborate report of all the published cases.

Rhinoliths owe their origin to the presence in the nostril of a foreign body, around which the secretions of the nostril have gradually precipitated a calcareous mass. A piece of dry secretion may, however, form a nucleus or a clot of blood, as in the case here reported. In many cases the nucleus of a foreign body has been found; in most cases, however, the original body being soft has become absorbed by the surrounding mass, and the nucleus is then not found. In the present case, the nucleus was not clearly defined to the eye, and was ascertained only after a careful spectroscopic examination.

The body of rhinoliths are composed chiefly of inorganic matters (80 per cent.), especially of phosphate and carbonate of lime, carbonate of magnesia and some oxid of iron. They differ very much in size, sometimes being so small that it is surprising that they were not ejected from the nose during the process of blowing, and, at other times, so large that they fill the whole lumen of the nostril. In the case of Brown reported by Mackenzie,[6] the rhinolith attained the enormous size of 4.44 by 2.5 by 1.2 c., and weighed 12.9 grams, and a case reported by Zuckerkandl[7] was still larger.

The salts of which the rhinoliths are composed, derive their origin from the secretions of the nose. Why these concretions should form in certain cases and not in others, is not understood. Graefe[8] and Sajous[9] believe it to be due to a gouty diathesis, but this theory is not supported by the experience of other observers. Demarquay found this diathesis present in only one of fifteen cases which he examined. This writer suggests that the narrowing of the inferior meatus is the predisposing cause, and that the alterations of the secretions of the nose have some influence in their formation. The change in this secretion, however, is probably the result and not the cause of the rhinolith.

As the etiology of the majority of diseases are now supposed to be associated with some microörganism, observers are not wanting who have ascribed the development of these formations in the nose as due to microbian origin. Gerber[10] reports a case in which he found a rhinolith made up of calcified microbes, and believes that these concretions are formed through the activity of these bacteria. E. J. Moure[11] in the *Monatsschrift für Ohrenheilkunde*, describes two interesting cases of rhinoliths, in which he was unable to account for the development of the rhinolith in the second case except on the microbian theory, as the rhinolith was filled with large masses of bacteria.

The symptoms of the presence of a rhinolith is usually a chronic discharge from the nostril, frequently of a fetid character, and sometimes reflex symptoms as headaches and neuralgia of one of the

various branches of the trigeminus. If the size of the stone is sufficiently large, nasal obstruction and its manifold effects are added as a prominent symptom. Although a smooth hard foreign body may remain in the nostril for a considerable time without giving rise to any special disturbance, still rhinoliths, on account of their rough and angular exterior, usually give rise to irritation and inflammation of the surrounding mucous membrane, and generally to a purulent discharge and to the development of granulation. The discharge may be retained on account of the foreign body interfering with free drainage of the nostril, so that the fetor in some of those is very offensive. Atrophy may also result, as in the case which I have reported. In some cases the symptoms are much more severe, as in a case reported by Hendley,[12] in which the nose was greatly swollen and a sinus opened externally, discharging pus. Bosworth[13] quotes a case of Bovill,[14] in which the left side of the face was swollen, there being also left facial paralysis, ptosis and epiphora of the left eye, and the nose and septum deviated to the right side, and the hard palate distorted.

The extraction of a rhinolith, when small, presents no special difficulty. The mucous membrane having been thoroughly cocainized, the stone may be removed by means of a nasal scoop or a strong angular nasal forceps. Sometimes a snare may be successfully used for the extraction of the rhinolith, as first suggested by Voltolini,[15] and the ordinary lithotrites used for urinary calculus sometimes facilitates the extraction. In the case described by Moure,[11] the body of the rhinolith was situated in the posterior part of the nostril, and it was removed by forcing it into the pharynx, whence the patient expectorated it from the mouth. Where this procedure is carried out, the soft palate should be held against the pharynx, with the finger of the left hand, so that the foreign body can not be swallowed, or fall into the larynx. When the rhinolith is too large for extraction, it should be broken up by means of a drill operated by the electro-motor, or strong forceps or the lithotrite, and the separate fragments extracted with forceps.

Bergeat[16] describes a case in which he utilized the properties of hydrochloric acid in dissolving the earthy constituents of bone in the removal of a sequestrum from the nostril. He applied the acid by means of a sound with a spiral extremity, and repeated these applications until the sequestrum had been so diminished in size that it could be extracted without difficulty. Although I have not heard of anyone making use of this procedure in the case of rhinoliths too large for extraction, still the use of hydrochloric acid would no doubt be a useful expedient in certain cases.

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No. 3723 Prytania Street.

SOCIETY PROCEEDINGS.

Chicago Pathological Society.

Regular Meeting, March 9, 1896.

DR. JAMES B. HERRICK, Vice president, in the Chair.

DR. JAMES B. HERRICK read a paper entitled "Two Cases of Pernicious Malaria." (See page 863.)

DR. H. B. STEHMAN read a paper entitled "Bovine Tuberculosis," and made some remarks upon tuberculin as used for diagnostic purposes in cattle. (See page 861.)

PRESENTATION OF CASES AND SPECIMENS.

DR. J. HOLINGER presented three cases of *cholesteatoma* of the ear, with specimens, and discussed them as follows:

Case 1.—Twenty years old, was operated upon in fall of 1893. He was treated in the Eye and Ear Infirmary for several months for suppuration of the right ear, the drum of which was vacant, and granulations were removed at several instances, yet the fetid discharge did not become less or thinner. The general condition was very poor. The boy was anemic. He was learning the trade of a plumber but could not work longer than an hour at a time, then became tired, dizzy and had to stop. Since the operation he works steady. The greatest improvement in his general condition was noticed soon after the operation, when two months after his discharge from the hospital his nurse did not recognize him. Now nothing of his anemia that he suffered with from childhood can be proved. His ear stopped discharging and there is only one small moist spot near the Eustachian tube, all the other very large cavity is covered with healthy, dry epidermis, and can be controlled through the external meatus. His hearing was, before the operation, zero for whisper and six feet for conversation. It is now three meters or ten feet for whisper.

Case 2.—Patient is 22 years old and was sick since his second year. After three weeks of observation, during which polypoid granulations, and finally the almost entirely loose hammer were removed, and regular syringing of the attic with Hartman's antrum tube did not have any effect whatever on the bad-smelling, thick secretion, which carried considerable masses of epidermoid scales; the operation was performed middle of December. The bone was eburneous, and granulated very slowly. Three weeks after operation the whole wound was covered with Thiersch's skin grafts. During a narcosis of bromid of ethyl Dr. Beard was kind enough to cut the flaps out of the patient's arm, while I removed the granulations from the bone and stopped the hemorrhage. After the patient had recovered from the narcotic the flaps were put in place. The greatest part of them took. I did not succeed, however, in covering the Eustachian tube, in consequence of which you see a small, red granulation in back of its opening, the only moist place in the whole cavity. Different experiences of several authors (Profs. Liebenmann, Bezold, Schwarze), as well as my own, convinced me long ago that the perpetual opening behind the ear is the only operation that is able to prevent these cavities from suppuration and necrotic process, with the final perforation into the skull and meningitis. In this patient the other ear shows a typical cholesteatoma with large scales. But there was never retention or decomposition of secretions or necrosis, therefore I did not operate there. The hearing distance on the operated ear was two feet for conversation, now it is one foot for whisper. The ear that was not operated upon was the better one before, and had a hearing distance of five feet for conversation.

Case 3.—Wm. M., 17 years, came to my observation in Post-Graduate Medical School two weeks ago. I removed a large polypoid granulation from the posterior upper margin of the drum, which was vacant with the exception of a narrow adhesion that connected the mallet to the anterior wall and the promontory. You see now the white epidermis distinctly descending the promontory. It is only the neighborhood of the Eustachian tube that it does not cover yet. There you find a few granulations. The other middle ear of the patient is entirely covered with epidermis, which you can see through a big perforation of the drum. The rest of this membrane you see in back and front of the displaced mallet. The hearing of both ears of this patient is very poor, only four feet for conversation. The specimens are temporal bones, for which I thank Dr. Hectoen. I performed there the regular Zanfal operation, as I did it in these cases. One shows the operation before its most dangerous step, the removal of the bridge between antrum, external meatus and middle ear. The other one after this, and opens a free view into the middle ear, attic with ossicles, antrum. In all cases of cholesteatoma, however, the conditions are not as clear ones as in the normal, and then you have to make your way without antrum in the hard bone, and

avoid the facial nerve, which takes often considerable knowledge of anatomy of temporal bone.

DR. L. L. MCARTHUR—*1. Fibroid Tumor of the Scrotum.*—A patient came to my office not long ago with a tumor of the scrotum for the purpose of having it aspirated. Clinically, the tumor presented the conditions which obtain with a hydrocele. The tumor was firm, small above, large below, smooth in outline, and quite fairly elastic, yet harder than it seemed possible for a hydrocele to be. It was not translucent either to sunlight or the electric light; therefore I made a hypodermic puncture before resorting to aspiration, finding that the needle went into a solid growth. The patient was sent to the hospital for its removal, the nature of which could not be determined prior to operation. By manipulation it was free from the testicle and lying above it, extending from the external inguinal ring to the bottom of a rather large scrotum. The specimen has wasted about 25 per cent. in size through the influence of alcohol. The cord ran down on the inner aspect of the tumor. On cutting through the tissues of the scrotum as one does in hernia, the various layers were recognized, and it was seen to come down upon the peritoneum. On opening the peritoneum I found a hernial sac in which lay a tumor which had but one small adhesion on the inner aspect of the tumor; that is, the finger could be swept completely around the tumor except on the inner aspect as it lay in the scrotum, and the index finger could be readily carried through the inguinal ring into the abdominal cavity. There was no history of a change in size from position. There was no history of intestinal or mesenteric contents coming down into the hernial sac. On studying the adhesion which existed on the side of the growth mentioned, it was found to have, after cutting through the peritoneal wall which covered the tumor, a connection with the vas deferens as near as could be made out. The patient says that it was always larger than the opposite side, but that in the past nine months prior to operation, it had increased and become painful. As the tumor had somewhat the characteristics of a fibrosarcoma, it was decided to resect the vas deferens and remove that portion which was attached. This was done.

Microscopic examination of the growth proved it to be a fibroid tumor which seemed to start from the vas deferens and filled the hernial sac. It was a hernial content. The peritoneum was resected up around it, especially the part which folds around the testicle in its descent and makes the tunic. The patulous character of the inguinal canal made me believe it to be a congenital growth, and the continuation of the peritoneum with the bursa of the testis showed that that was probably true. A small portion of the peritoneal sac was ligated off to make a normal bursa over the testis. A ligature was applied to the distal end of the vas deferens to prevent the escape of seminal fluid. The patient made a good recovery.

2. Cyst of the Appendix.—The next case is one that occurred in the practice of Dr. Frankenthal, of this city, and a relative of his family. A young man of 25 had been having for three years repeated attacks of appendicitis which were typical in character, and were usually caused either by excesses or carelessness in the selection of diet. I was called twice during the past three years to see him on account of these attacks and advised non-operative interference because while the symptoms were fairly acute, they were not alarming. His temperature would range between 100 and 103; the pain was fairly well marked, and an elongated tumor could be distinctly felt. He recovered from his first attack and by being careful in his dietary had none for a year and a half. He had a second attack, after which he paid more attention to his diet and a long time elapsed before he had another attack. Finally, about six months ago, he had a third one, when it was decided to remove the appendix after all the inflammatory symptoms had subsided. Each attack was followed by a rise of temperature, the thermometer often indicating 103 with acceleration of the pulse and the formation of a tumor. In operating, much to my surprise, I found an elongated appendix, five inches in length, markedly distended. A tumor was to be felt before operation which seemed to run down into the pelvis, and it was about the size of an ordinary Frankfort sausage. It was firm, elastic and translucent. Its contents, when allowed to escape, consisted of clear, glairy mucus. It was simply a mucous cyst of the appendix. I present it to you, not that such cases have not been found before, for there have been some reported, yet they are not numerous, but because it seems almost inexplicable how he could have had a temperature as high as he did ranging over a period of ten days without any pus or suppurative process. I can not conceive of his having had a suppurative process in his appendix, and then having it disappear, leaving nothing but a clear mucus. There were no adhesions in this case. The appendix, which was elongated and hanging down in the pelvis, was movable in the abdominal cavity and showed no attachments to either the mesentery or other intestines. Its neck was totally obliterated.

DR. LUDVIG HEKTOEN.—It will be remembered that Dr. Van Hook (*Medicine*, March, 1896) described a strangulated inguinal hernia of the vermiform appendix. In the literature he found twenty-nine cases of cystic dilatation of the vermiform appendix: to this number he adds his own case, an unpublished case of Treves and one that came under my observation, making the total number of cases thirty-two. This small number shows the comparative rarity of cystic appendix.

The pathological condition in Dr. McArthur's specimen, as well as in many other similar specimens, is undoubtedly a partial obliterating appendicitis with consecutive distension of the distal part by the accumulating products of the mucosa and the inflammatory exudation during recurrent attacks of appendicitis, the regional lymph glands being unable to absorb the contents of the cyst because of chronic indurative lymph-adenitis, or because the lymphatic vessels are constricted at the cicatricial closure of the appendiceal lumen, which point is well marked in Dr. McArthur's specimen by the circular constriction near the proximal cut end. This specimen, taken in conjunction with the clinical history, demonstrated conclusively that there may be a partial obliterating appendicitis with consecutive cystic dilatation of the appendix.

DR. E. R. LE COUNT—I would suggest as a possible explanation for the fluid in the cyst, that the obliteration not only affected the lumen, but that the inflammation shut off the blood vessels on the outside of the appendix, causing an edema of the tissues.

The Medical Association of Georgia.

Abstract of the Proceedings of the Forty-seventh Annual Meeting, held at Augusta, April 15, 16 and 17, 1896.

The Association met in the Richmond County Court House, and was called to order by the President, DR. FRANK M. RIDLEY, of La Grange.

The Address of Welcome was read by DR. EUGENE FOSTER, of Augusta, which was responded to by DR. E. R. ANTHONY, of Griffin.

PRESIDENT RIDLEY then delivered his annual address, in which he forcibly and eloquently dwelt upon several topics of interest to the profession.

The first paper read was by Dr. W. J. MATHEWS, of Middleton, entitled

THE TREATMENT OF PNEUMONIA.

The Doctor had never seen a case in his experience where he thought the symptoms warranted abortive treatment, owing to not seeing the patient until a few hours after the prodromic chill, the lung then being engorged to such an extent that he thought his efforts would prove futile. Having satisfied himself that he has a case of pneumonia to deal with, his first step is to make the patient comfortable. To meet this end he envelops the affected side with counter-irritation, preferably turpentine. To relieve restlessness, pyrexia and pain he gives phenacetin. Should phenacetin fail, he gives morphin hypodermically. To reduce hyperpyrexia he administers phenacetin in sufficient doses every three or four hours in connection with a stimulant, the purpose being to reduce the temperature to 101° or 102°. In his experience phenacetin does not, like some of the other coal tar products, depress the heart. He advocates the application of blisters. He had never seen a case calling for venesection. To control the pulse he gives veratrum viride every three or four hours with whisky. The overworked heart should be closely watched, its action sustained and clot prevented. This he does by digitalis and carbonate of ammonia. In the stage of resolution he resorts to supportive treatment. The type of which he had spoken was the acute lobar variety.

DR. J. W. DUNCAN, of Atlanta, seldom blisters an adult. In the very initial stage a blister might do some good. He does not give the coal tar preparations in pneumonia, for the reason that if they are given to reduce temperature they are liable to produce cyanosis. He frequently uses veratrum viride and considers it a sheet-anchor in this disease.

DR. J. B. MORGAN, of Augusta, read a paper on

COLLES' FRACTURE.

The most common and frequent fracture with which the general practitioner had to do was a Colles' fracture. The diagnosis of this fracture was not difficult. The history of the accident, the characteristic deformity, pain and seat of the

lesion, point at once to the nature of the fracture. Every case of Colles' fracture can be readily reduced by strong, forced dorsal flexion. This is best done under an anesthetic. The best temporary permanent dressing is Wyeth's modification of Pilcher's. The plaster of paris dressing is an excellent one, and is to be preferred in old people where there is firm impaction which the surgeon does not care to break up, or in cases where the fragments are more or less comminuted. It should be applied from the lower border of the metacarpus to the middle third of the forearm, with the patient's hand in the straight position. A straight dorsal splint may also be employed, but it is not as desirable as the plaster of paris. Under no circumstances use the angular, crooked or pistol-shaped splint, and no form of splint should be allowed to project beyond the metacarpus. The fingers must remain freely movable to prevent stiffness of the joint. Limited motion should be encouraged at first; later active and free. In aged patients, where we have more or less impaction of the broken ends, reduction should not be attempted, as it is better to have a crooked deformed wrist than a failure in bony union, and impaction favors the consolidation of the fractured bone.

DR. W. L. CHAMPION, of Atlanta, contributed a paper on

THE IMPORTANCE OF CAREFUL CHEMIC AND MICROSCOPIC EXAMINATION OF URINE IN APPLICANTS FOR LIFE INSURANCE.

Within the past few weeks the author had examined patients with kidney lesions, who a few days or weeks previously had applied for life insurance and had been recommended as good risks. Every medical examiner, after due deliberation, ought to be able, after making a thorough physical examination, having considered the applicant's predisposition to any disease, and last but not least, having made a thorough chemic and, if necessary, microscopic examination of the urine, to tell the life expectancy of the applicant before him. Cases were cited by the author to demonstrate that a great many practitioners are too prone to overlook the condition of the kidneys, not to make a careful and through examination of the urine, not only in examining applicants for insurance, but their desire to formulate a correct diagnosis in diseased conditions should make it so. He urged the extension of chemic and microscopic investigations in this line of work.

DR. A. W. STIRLING, of Atlanta, in the discussion called attention to some experiments which he had made some years ago, and which formed the basis of a graduation thesis to the University of Edinburgh. Chiefly through the observations of Pavy, Johnson and others it was becoming known that every phase of albuminuria was not a case of Bright's disease. In order to ascertain the actual number of persons in whom albuminuria was present in health, he examined 369 boys between the ages of 12 and 16, who belonged to one of the large training ships on the Thames, near London. In order not to make a mistake in regard to the presence of albumin, he examined each one with four different reagents. He found albumin most common three hours after the boys got out of bed and assumed the erect posture, when the percentage was by examination 20.8 per cent. Of the boys that played in a band the percentage of albumin was about 60 per cent., while in those that did not play in the band it was only 12.8 per cent. Mr. Stichel, of Paris, had seen blindness produced by the playing of wind instruments due, he says, to passive cerebral congestion with a similar condition of the retina and choroid.

Dr. Stirling says that the urine is usually found to be absolutely free from albumin while the patient remains in bed and and it makes its appearance within a variable but generally short time after the assumption of the erect posture, and independently of food and all other conditions. The albumin continues in the urine for only an hour or two, or perhaps in varying quantity throughout the day, but as a rule it is disappearing in the afternoon, and is entirely gone by bedtime. The ingestion of food has little effect in producing the albumin, and it is not breakfast which causes its frequency of appearance in the morning. Sometimes he had seen a slight rise after a meal, but this is trivial and by no means constant. He had boys brought ashore to the infirmary and confined to bed and then albumin was absent from the urine until they got up, breakfast or other meals having no effect. He had made very many and various experiments in connection with this subject, all tending to prove the same thing.

He examined 92 other cases, whose ages varied from 5 to 94, with the result that there was an increase in the percentage of people having albuminuria with advancing years. From 20 to 30 years he found the percentage of albumin to be only 10 per cent.; 30 to 40, 25 per cent.; 40 to 50, 36.4 per cent.; 50 to 60, 66.6 per cent.; 60 to 70, 75 per cent.; 70 to 80, 75 per cent.; 80 to 90, 83 per cent. These observations were confirmed by Grainger Stewart.

With regard to the advisability of insuring cases of "cyclic" albuminuria, he would suggest that in the present state of our knowledge, the most satisfactory method of dealing would be for the companies to accept an apparently healthy albuminuric at a high premium, agreeing to rearrange this on their being satisfied of the disappearance of the albumin for such a length of time as would give reasonable expectation of this being permanent.

THE MODERN TREATMENT OF SKIN DISEASES.

DR. BERNARD WOLFF, of Atlanta, read a paper on this subject, in which he outlined in a succinct manner the progress that has been made in the province of dermatology within the last twenty years. The remedies selected for use in cases of disease of the skin can be employed in several ways, namely, lotions or washes, ointments, pastes, plasters and soaks, as well as baths. Baths are of two kinds, the vapor and the simple medicated bath made to resemble the natural mineral waters. The chief purpose of the bath is, besides cleanliness, to bring about healthy activity of the skin, to remove scales, soften infiltrated areas, increase the elimination of waste products through the skin and to relieve irritable conditions of the skin. Baths are especially valuable in the treatment of parasitic and syphilitic affections of the skin. Ointments and pastes are more frequently used than any form of preparation in the therapy of skin diseases. The base of an ointment is a matter of importance, for upon it largely depends the benefit to be derived from the medicament. Formerly only lard and wax were used; now we have a greater number of articles to choose from. Of these vaselin, lanolin, adeps lanæ, and resorbin are the most useful. Ledermann has introduced a new excipient called resorbin. It is composed of refined almond oil, emulsified with distilled water with the addition of a small quantity of yellow wax and lanolin. The author's experience with casein ointment leads him to regard it as being incompatible with too many substances to be of much practical value.

The use of soaps is of some importance in the treatment of diseases of the skin. Only neutral soaps, or those containing an excess of unsaponified fat, are to be recommended. Free alkali is destructive to the protective horny layer of the skin. The over-fatty soaps make commendable vehicles for various medicaments, the most frequently used of which are hydronaphthol, resorcin, sulphur, tar, corrosive sublimate. The use of soaps has the effect of encouraging cleanliness on the part of the patient, and cleanliness is one of the prerequisites of successful treatment.

The removal by electrolysis of nevi, moles, warts, and small malignant new growths of the skin is a well established surgical procedure.

DR. M. B. HUTCHINS, of Atlanta, said the modern treatment of skin diseases should embrace internal as well as local or external treatment. The patient's constitution should not be overlooked, although if he had to choose between local and internal treatment, he should prefer the former in the treatment of 99 per cent. of the cases of affections of the skin. He had not given the plaster mulls of Unna much trial. They had been objected to on account of containing a gutta percha base, and in any event the dermatologist would have to carefully select the cases in which to use them. With reference to soaps, such as the bichlorid of mercury, the chemic change which takes place renders the remedy inert, and it is impossible to get any absorption through the unbroken epidermis. Success in the treatment of syphilis by mercurial inunctions is attained, not by the absorption of the mercury through the skin, but by inhalation of the vapors from the mercurial ointment.

As regards gelatin paste he had used it a little, but thought it was objectionable because it stuck to everything with which it came in contact, particularly woolen goods.

In some cases of acne on the faces of young ladies he had obtained beneficial results by using the constant galvanic current to the cheeks where the eruption appeared. The stimulating action which takes place encourages the glands to throw off secretions without allowing them to remain sluggish and thus block up the follicles of the skin.

APPENDICITIS.

A paper on this subject was read by DR. SAMUEL LLOYD, of New York City. It was largely statistical. In making his compilation the author began with the very earliest recorded cases, and it covers a greater number of medical than surgical cases. The total number examined up to April 5, 1896, was 558, and the result was that 263 recovered, and 295 died. Of this number 226 were operated upon, 192 recovered, and 31 died. On the other hand, in direct contrast to this, 265 cases were treated conservatively, 60 recovered, while 205 died. A case was cited which the author had seen in consultation,

illustrating the course of extraperitoneal abscesses. According to the table of cases that the author had examined, the pathologic conditions could be summed up, as follows:

1. Cases in which the disease follows traumatism.

2. Cases following septic inflammations in other parts of the body, such as salpingitis in the female, post-partum septic inflammation of the uterus, typhoid fever, tuberculosis.

3. Direct infection of the mucous membrane of the appendix by its contained bacteria.

4. Alterations in its position and shape so as to occlude its lumen, preventing the escape of its natural secretions and contained intestinal contents.

5. Changes in its position and pressure upon its mesentery by growths, or impacted feces in the cecum.

6. Alterations in its position or shape so as to shut off its blood supply.

7. Foreign bodies, including fecal concretions.

There was one other pathologic condition about which the author could obtain no information from the cases tabulated, namely, the "abdominal tonsil," referred to by Sutherland, Robinson, Yeo Burney, Haigh, and Bland Sutton.

It is probable that in the present state of surgical knowledge the majority of medical men are in favor of surgical intervention in cases tending toward general peritonitis, even though the symptoms do not point to perforation,or abscess formation, in the hope that drainage of the abdominal cavity and the removal of the focus of disease may enable the surgeon to forestall what would otherwise be a fatal complication.

Of 445 cases out of 558 that were examined, 79 per cent. resulted in abscess, perforation, peritonitis, etc.

The following table gives the full data:

Perforation, without given cause	11	
With abscess	10	
With ulceration	16	
With peritonitis	32	
With concretion or foreign body	41	
With gangrene	7	
With gangrene and concretion	19	
With inflammation	13	
With hardened feces	1	
With concretion and peritonitis	24	
With foreign body and peritonitis	7	
		181
ABSCESS WITHOUT PERFORATION.		
Uncomplicated	136	
Containing concretion	19	
With perforation	2	
Sloughing appendix	2	
Foreign body	1	
		160
Foreign bodies	36	
Fecal concretions	26	
Inflammation of the appendix	8	
Enteroliths	2	
Gangrene of the appendix	9	
Gangrenous appendix with concretion	2	
Inflammation with concretion	3	
		86
GENERAL PERITONITIS.		
With concretion	5	
Foreign body and gangrenous appendix	1	
Foreign body	3	
Ulceration	1	
		10
Total		437

It will be noticed that this is a dismal showing for the conservative treatment of appendicitis. The author believes that no case of appendicitis should be considered as purely medical. When one is called to a patient it is his duty to immediately prepare for operative interference. He would advise operation in every case, after studying the subject carefully, where the symptoms showed any tendency to increase. If a tumor was present and the symptoms suggested the possibility of the presence of pus, he would surely operate.

DR. E. H. RICHARDSON, of Atlanta, followed with a paper on

THE MEDICAL SIDE OF APPENDICITIS.

He cited the opinions of eminent practitioners both in this country and Europe in favor of non-operative interference in a large proportion of cases.

DR. W. H. ELLIOTT, of Savannah, said the foremost difficulty in cases of appendicitis was to know *when* and *when not* to cut. No man was fit to treat appendicitis who was not absolutely willing at any moment that he might be needed to open the abdominal cavity.

DR. WILLIS F. WESTMORELAND, of Atlanta, was quite sure that in every case of relapsing appendicitis he had seen there were adhesions from previous attacks. Some of these cases had died. If they had been operated on in the primary attack, the chances would have been better for their recovery. He would open the abdomen as soon as appendicitis was diagnosed, if the patient would permit it.

DR. JAMES A. WRIGHT, of Augusta, considered the operation for this disease very difficult, for the reason that no two cases were alike. It was an easy matter to cut down, but if pus and adhesions were found around the appendix the operation was extremely difficult.

DR. J. W. DUNCAN, of Atlanta, had seen and treated medicinally several cases of appendicitis during thirty years' practice, one of them having died from a recurrent attack a few months after the primary one. He was satisfied that many cases operated upon were nothing but typhoid fever, and that other cases thought to be typhoid fever were really appendicitis.

DR. J. B. S. HOLMES, of Atlanta, considers the disease a surgical one, and thinks it is safer to operate as soon as a diagnosis is made. The only cases he had lost were those that had been treated medicinally from two to four days previous to operative interference. If an early operation is performed, the mortality should be small.

DR. WM. H. DOUGHTY, of Augusta, maintained that it was not prudent to operate upon every case of the disease as soon as the diagnosis was made, for the reason that the surgeon does not always see the cases in their incipiency. If he did, it would be safe to remove the appendix as the chances were that at this time there would not be pus formation; in other words, the surgeon would have a comparatively clean condition within the abdominal cavity, and the mortality of operations done under these circumstances ought to be small.

DR. M. L. BOYD, of Savannah, took the position that if all cases could be diagnosed early, it would be wise to operate at once.

DR. GEORGE H. NOBLE, of Atlanta, thought it was extremely unfortunate that the general practitioner should view appendicitis from a prejudiced standpoint. There were undoubtedly, many cases of the catarrhal form that were relieved temporarily, or cured by purgation, possibly permanently. Where we have rupture and the discharge of the contents of the appendix into the peritoneal cavity, we have the fulminant form of the disease, and in such cases very prompt and active measures must be instituted. He advocated early operation.

DR. L. G. HARDMAN, of Harmony Grove, said that while there were cases of appendicitis calling for the services of the surgeon, there were others that could be treated successfully by medicinal measures. Of fifteen cases which had come under his care, only two were operated upon. All recovered, both the operative and non-operative cases. In the cases operated on suppuration had occurred, and one of the patients, a physician, was present.

SOME ALBUMINURIC COMPLICATIONS OF PREGNANCY.

A paper on this subject was read by DR. HOWARD J. WILLIAMS, of Macon. He said this complication was present in from 6 to 50 per cent. of all pregnancies. On the other hand, puerperal eclampsia was comparatively rare. From Jan. 1, 1891, to March 31, 1896, he had encountered 10 cases of albuminuria or toxemia in 163 pregnancies, and 2 cases of eclampsia in this number—10 cases. This gives 6 per cent. of toxemia and about 1 per cent. for eclampsia. The percentage given is based upon accurate analyses of the urine of every woman he had attended during the time mentioned. Albuminuria may be present in varying degrees, from a mere trace to a very large per cent., the urea and other excreta accumulating in the blood in the same proportion. The toxemia is slow or rapid, according to the degree of retention of the latter from the outside. These variations were shown by the recital of three cases.

The cardinal indications are to promote elimination of the toxic materials circulating in the blood and to restore the excretory organs to their normal functions. If, however, the poisoning is excessive and the life of the mother and the fetus is at stake, then the indication is to promptly empty the uterus.

Elimination is preëminently indicated for all forms of kidney disease, and in this complication it yields the best results. But if it can not be tolerated, or disagrees, a more liberal diet should be given, such as the white meats of fowls, fish, oysters, fresh fruits, and nutritious breads. Remedies to promote elimination by the kidneys were then dwelt upon. Nervous excitement should be controlled by sedatives and narcotics, though not to the extent of interfering with eliminative measures. Elimination of the waste products having failed to restore the functions of the excretory organs and the condition is urgent, eclampsia being imminent or other complications alarming, the uterus should then be emptied.

DR. R. B. BARRON, of Macon, delivered the

ORATOR'S ADDRESS.

He dwelt upon and pleaded for higher medical education. Relative to practicing medicine purely for money, he said that money with the true physician was of secondary consideration;

that the real incentive for the best work with those practitioners who achieve success was that broad humanitarianism which impelled with resistless force the commissioned agents of God Almighty to relieve suffering, to stay the pangs of agonizing pain, to fight to the bitter end humanity's implacable and unconquerable enemy—death—regardless of any other consideration.

THE AFTER-TREATMENT OF TRACHEOTOMY CASES OF MEMBRANOUS CROUP

Was the title of a paper read by DR. R. M. HARBIN, of Rome, in which he drew the following conclusions:

1. Croup, whether diphtheritic or membranous, is almost invariably fatal without surgical treatment, and the few cases that recover by medicinal treatment alone are not to be considered.

2. So far as the practical indications for tracheotomy are concerned it makes no difference whether croup be diphtheritic or membranous.

3. Tracheotomy has the advantage over intubation, in that it gives a better means of expectorating the membranes and furnishes free drainage from the site of septic infection.

4. Tracheotomy is a justifiable surgical procedure and should be performed in all cases where our therapeutic resources have been exhausted, and where the patient is in imminent danger of suffocation. It should be done in hopeless cases, since it either offers a chance for the patient or promotes euthanasia.

5. Tracheotomy keeps the patient alive until the pseudo-membrane disintegrates and resolves into a muco-purulent liquid and is expectorated through the tube.

6. The after-treatment is the most important part of the procedure and the author attributes the successful results reported to the persistent use of lime water.

DR. J. B. S. HOLMES, of Atlanta, reported several interesting surgical cases.

DR. GEORGE H. NOBLE, of Atlanta, reported a case of

ENORMOUS VENTRAL HERNIA CURED BY A PLASTIC OR FLAP OPERATION.

The subject was a very large woman who came to him from a neighboring State, giving a meagre history, saying that the protrusion first appeared after severe straining, and grew rapidly until it reached the size of an adult head. The treatment she had received consisted in local applications only, no attempt at operative measures having been made. The case is of considerable interest on account of such a large hernia in this region and because the expansion of the ribs prevented closure of the ring by approximation of its margins, necessitating therefore a plastic or flap operation to close the aperture which was large enough to pass a closed hand through without resistance.

The operation consisted of 1, in trimming away the excess of the sac and uniting the peritoneum with buried catgut sutures; 2, four strong tension sutures were passed through the abdominal walls, piercing the semilunar lines down to the peritoneum, but not implicating it; 3, the semilunar flap was carefully outlined upon either side over the recti muscles with a straight or vertical side upon their outer margins and the convexed borders turned toward and extending to the hernial ring. The aponeurosis of the external oblique and the outer layer of that belonging to the internal oblique muscles were cut through and the flaps liberated except where their bases joined the ring and turned over the opening, accurately abutting the edges, in which position they were stitched with buried silk sutures. The convex borders coincided with the margins of the ring to which they were made fast; 4, the recti muscles were brought in direct apposition by surrounding them with the large catgut, thus adding another layer of strong tissue over the hernial opening; 5, the skin and fatty tissue were then brought together and the tension sutures tied over all, the wound dressed antiseptically, with firm pad, roller bandages, etc. The wound proved entirely aseptic, and the result was very gratifying.

In another such case the writer would use buried silver sutures instead of absorbable material.

DR. M. B. HUTCHINS, of Atlanta, read a paper on the

TREATMENT OF SKIN DISFIGUREMENTS BY ELECTROLYSIS.

That electrolysis has a wide application and a legitimate use, he was convinced by his own experience during the past five or six years. To do the work outlined in the paper a few galvanic cells, a sponge electrode, a needle holder, and for accurate work, a milliampèremeter, are necessary. In most cases the needle should be attached to the negative pole. The current used is weak, and varies from three to seven or eight cells. With a milliampèremeter it is found that we get from 1 to 5 milliampères from this current to the relative position of the electrodes, the greater amount of intervening tissue reducing the current by resistance, a lesser interval increasing it. The number of needles used, the manner of grasping the sponge electrode, the dampness of the sponge, all influence the strength of the current. The strength of current used in these operations is harmless to the patient and would not be felt upon the unbroken epidermis.

For the removal of superfluous hairs on the face of ladies, electrolysis was the only method. Many of the patent hair removers were excellent stimulants to its growth. A lounge, good eyes, a good light, a steady hand and perseverance were necessary. Dr. Hutchins had never seen any injury result from the treatment of moles by electrolysis. He had removed one by excision which had become epitheliomatous through a razor cut. There was no recurrence. Moles with hairs in them will frequently disappear from the simple effect of the current used in destroying the hairs, but destroying the mole does not always destroy its hair as they are deeper.

Warts of various kinds, so tedious of treatment with the old methods, save that of excision, with or without cauterization, usually dissolve into froth under the action of electrolysis, being more easily destroyed than the average mole. The author then dwelt upon electrolysis in the treatment of epithelioma, small fibromata, milia, sebaceous cysts, keloids and hypertrophic scars, comedones, angiokeratoma, etc.

The paper was based entirely upon the author's own practical experience, and his implicit faith in this method of treatment is due both to results in practice and upon himself.

DR. M. L. BOYD, of Savannah, followed with a report of a few interesting surgical and gynecological cases.

DR. DUNBAR ROY, of Atlanta, Ga., read a paper on

THE USE OF SUBCONJUNCTIVAL INJECTIONS OF MERCURY IN CERTAIN FORMS OF EYE DISEASES.

In this paper the author tabulated twenty-five cases of various eye affections, and his experience leads him to the following conclusions: 1. In infected processes of the cornea, ulcers, abscesses, wounds, etc., this method of treatment is quicker and therefore more satisfactory for clinical purposes than those usually employed. 2. In acute iritis it does not seem to exert any beneficial influence, but produces great pain, while in other cases the pain is mitigated. 3. In chronic iritis and irido-cyclitis the pain and congestion are often markedly influenced for the better, but it has no effect whatever upon adhesions of the iris to the capsule of the lens. 4. In post-operative infection and panophthalmitis it is by far the best method to which we may resort for good results. 5. In pannus of the cornea absolutely no effect was produced one way or the other. 6. With lesions of the choroid and other deeper structures of the eye he had had no experience, but expects to try this method whenever a case presents itself. From his personal experience he would unhesitatingly say that we can depend upon subconjunctival treatment alone, but as an adjuvant it is most excellent and in some cases produces results far more beneficial than were expected.

DR. A. W. STIRLING, of Atlanta, read a paper on

GLAUCOMA IN RELATION TO GENERAL PRACTICE.

He said that glaucoma was to the ophthalmic specialist one of the most interesting of diseases, comprising 1 per cent. of all ophthalmic troubles. While he believes that every case of the disease requires the most skillful advice that can be obtained, still it is the first and foremost affection which comes within the province of the general practitioner, and with him lies frequently the ultimate safety or destruction of the eye involved. The reader reported several interesting cases, after which he dwelt upon the variability in tension. Coming to the treatment he counseled against the indiscriminate use of mydriatics, especially atropin, scopolamin and cocain in affections of the eye. Glaucoma had often resulted from the use of these agents and is almost always accentuated by them. In most ocular diseases they are harmful, and the general practitioner would do well to remove them from his list in ophthalmic practice, except when he knows he is dealing with an uncomplicated keratitis or an inflammation of the iris. On the other hand, in myotics, and notably in eserin and pilocarpin, we have a fairly certain means of temporarily benefiting many cases of glaucoma and of saving valuable time till the most suitable method of treatment can be decided on.

The following officers were elected:

President—Dr. Geo. H. Noble, Atlanta.
First Vice-President—Dr. J. B. Morgan, Augusta.
Second Vice-President—Dr. R. B. Barron, Macon.
Secretary—Dr. R. H. Taylor, Griffin.
Treasurer, Dr. E. C. Goodrich, Augusta.
Place of meeting, Macon, Ga., 1897.

THE
Journal of the American Medical Association
PUBLISHED WEEKLY.

SUBSCRIPTION PRICE, INCLUDING POSTAGE:
Per Annum, in Advance $5.00
Single Copies . . . . . 10 Cents.
Subscriptions may begin at any time and be sent to
THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION,
No. 86 FIFTH AVENUE, CHICAGO, ILLINOIS.

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Original communications are only received with the understanding that they are exclusively contributed to this JOURNAL.

SATURDAY, MAY 2, 1896.

THE CERTIFICATE PLAN.

In order to avail themselves of the excursion rates, those purchasing tickets must obtain from the railway agent at the starting point a certificate that full fare has been paid by the purchaser from the starting point to the place of meeting. On arrival at the place of meeting, this certificate is handed to the registration committee. (This year a separate envelope has been provided.) The Secretary will then sign the certificate, and return it through the post-office to the member. This signed certificate, presented to the agent at the place of meeting when returning will enable the purchaser to secure a return ticket for one-third fare.

THE NEWEST PHRENOLOGY.

There has been lately organized in connection with an eastern university a society the members of which agree to give their brains to be examined after death for the furtherance of scientific knowledge. The Anthropometric Society organized a few years ago has similar provisions for its membership, and it is expected that some valuable results may be obtained in time from this special and rather peculiar line of research. It goes without saying that the examination of the brains will be made by acknowledged experts and with every possible precaution and appliance to insure that in every minute particular it will be fully up to the most recent data of our knowledge of the subject, of cerebral anatomy and physiology. This, however, is not all that is needed; pathology without clinical observation is robbed of more than half its value, and in these cases, every phase and fact of character, education and career of the original owners of the brains should be studied and correlated with the findings. With distinguished individuals who are more or less public property during their lives and with public characters generally, these desiderata may be met to a greater or less extent, according to their prominence and the interest taken by their fellows in their doings; but how about the less conspicuous individuals? If the brain structure, both macroscopic and microscopic, is to become so well known that we can determine what convolutional arrangements are normal or in the line of progressive evolution, or, on the other hand, are degenerative stigmata, we may expect some rather astounding revelations. In our present data we have already some rather remarkable facts; while CUVIER and CROMWELL had the largest brains, GAMBETTA had one of the smallest, and in two eminent men whose brains were recently reported upon by DR. BURT G. WILDER there was nothing found that would correspond particularly with their intellectual preëminence during life. In one, indeed, the brain was almost abnormally simple in its arrangement and moreover revealed one or two peculiarities that are at least eccentric and hardly indicative of superiority according to our present light on the subject. It would not be agreeable to friends, or to one's own post-mortem vanity if such can be assumed, to find an idiotic simplicity of gyri or the criminal frontal convolutional type of BENEDIKT. It can hardly be expected, however, if brain examinations become general that such possibilities can be insured against.

The physical examination, moreover, of the subjects whose brains are to be examined should be most thorough and by those who are competent to judge of all possible defects or conditions that can have a bearing upon brain development. This is a condition that can not be always fully met under the circumstances, and might be objectionable to some, but the difficulties it presents are light as compared to those of the mental and moral scrutiny that would be desirable.

With all these difficulties, however, the movement is a good one and we hope that it may extend. It can not fail to bring out many facts of value and it should not be embarrassed by any sentimentalism. It will, if extensively followed, throw most valuable direct and side lights on a vast number of medical anthropologic and psychologic questions. It should be supplemented by a more general and thorough study of the character peculiarities and physical stigmata of criminals and defective individuals, whose brains should also be submitted to the same complete examinations by experts. In connection with a thorough system of child study in public institutions, the examination of immature brains when practicable would be a most valuable adjunct. From all sources

combined we might reasonably expect to obtain most valuable additions to our knowledge of cerebral physiology.

THE ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES.

Ordinarily we have no sympathy with attempts to establish any more national medical associations. The scope of the AMERICAN MEDICAL ASSOCIATION is wide enough to embrace every branch of medical science, however special its character or object, and this particularly so since the greater prominence and importance given to sectional work in this body. The AMERICAN MEDICAL ASSOCIATION, indeed, has become what the Congress of American Physicians and Surgeons sought to be, a veritable confederation of medical bodies devoted to independent lines of thought and practice, meeting in joint session in recognition of the common ground on which they all stood. In fact, the several sections of the AMERICAN MEDICAL ASSOCIATION can more justly claim a national representative character than the constituent bodies of the Congress, since the latter have an arbitrary limitation of membership as to numbers and to a certain extent locality. Of course, any number of men devoted to the special study and practice of any department of medicine have the right to associate themselves for social or scientific purposes and to limit the number and select the particular individuals with whom they prefer such association, but this does not give them the right to arrogate a specific national representative character or designation, since there is an unavoidable inferential reflection upon the professional standing of the men of the same category who do not happen to belong to their especial coterie. These have, in reality, a club rather than an association character.

The sections of the AMERICAN MEDICAL ASSOCIATION are attempting to do more than the special organizations referred to and though exception may be taken to the lack of special professional qualifications for membership in each, that is a matter to be attended to in their future development, until it shall come to be that the enrolled members of the Section on Surgery, for example, shall be recognized surgeons, those of the Section on State Medicine, men actively interested in national, State and municipal sanitation, and those of Obstetrics and Diseases of Women, authorities upon the various conditions pertaining to the sexual life of woman.

The Association of Military Surgeons of the United States, however, with the American Public Health Association, is not amenable to criticism as a superfluous body. It is true that the latter is not properly a medical body at all, although the great majority of its members and those of especial authority in its councils are medical men. The Association of Military Surgeons is in a measure also extra-medical in this, that its members are military as well as medical men, they are officers as well as physicians, their bigamous relations, however, involving dual rather than divided obligations. While, perhaps, all that is strictly professional in the duties of the medical officers of the army, navy and national guard or volunteer militia, ought to be familiar to every thoroughly educated graduate in medicine, the peculiar requirements of a military and naval career—in the limitation of the authority of the medical officer and of any strictly personal interest in the cases that come under his care, in the predominance of the sanitary functions of his office, in the minimizing of supplies, remedies and apparatus to the utmost, in the necessity for the prompt suggestion and application of substitutes and temporary expedients, in the frequent changes of locality and exposure to danger; these and innumerable other conditions combine to impair the efficiency of the man who is unused to sword as well as scalpel.

The Association of Military Surgeons proposes to establish closer bonds between the medical officers of the national service and those of the national guard and volunteer militia of the several States, with the object of harmonizing their methods of procedure and making perfect concert of action between them possible should another great necessity occur for their conjoint operation. The officers of the army and navy recognize the benefit to themselves of the intercommunication afforded by the Association, as is evident from the numbers who are already enrolled as members.

The subjects to be considered at the approaching meeting of the Association in Philadelphia, May 12-14, immediately after the adjournment of the AMERICAN MEDICAL ASSOCIATION, are an earnest of the strictly special, that is medico-military, direction in which the Association proposes to work, to-wit, on standards of physical efficiency; visual acuity of recruits; value of athletics in the training of soldiers; baths, bathing and swimming for soldiers and sailors; practicable plans of sanitary organization and sanitary field service in our own and foreign armies; emergency rations; methods of sewerage of camps, posts, etc.; effects of new ordnance and projectiles in field service; care and transportation of the wounded on the field and aboard ship; annual encampments, etc. Add to these, which refer to *terra firma*, the changed conditions and requirements pertaining to military life on the deep sea in a floating box, hermetically sealed, and it will be admitted that the Association will not lack topics for its annual reunions.

There are certain obstacles yet in the way of the high professional prestige at which this Association aims. The national guard in many of the States and especially its medical department, lack that rigid system of organization which must obtain in any disciplined military establishment. There must be a

strict examination into professional competency, as in the United States Army, United States Navy and United States Marine Hospital Service, before any young medical officer should receive a commission; and promotion to the higher grades should depend upon the length of and the faithful performance of duty. It should not be possible for a governor's wife to persuade her husband to appoint her favorite medical adviser Surgeon General of the State, with the control and direction of the medical department of the national guard of that State, although not having the slightest aptitude or professional qualification or official experience. Perhaps in no better way can reform in the organization of the medical departments of the several States be accomplished than through this very Association, whose existence shall have been more than justified should it succeed in this direction.

CRIME AND THE NEWSPAPERS.

It is well known that the newspapers have a sensible effect, not in causing crime, but in producing those emotions, in recording the movement that leads to crime. It is a curious subject;[1] but considering the rising flood of sensational sheets, it may not be amiss to discuss it in a general way. In some minds the story of a crime excites a powerful tumult.[2] As regards the newspapers, the effect of the story is more pronounced than if it were played, or read, let us say from Victor Hugo, because the newspapers, with a felicity of which they have the secret, present exactly those details of a crime that most strongly influence the feelings. As far as the papers are concerned the rationale of crime is this: The emotion excited in B's mind by reading of A's crime, impels B to commit a crime similar to A's. That such cases occur we know from unquestioned testimony. Various morbid passions are at work here and that tendency to imitate what is admirable (whether rightly or wrongly conceived), is universal in human nature. "By a noble prerogative of our nature," says DE LA PLACE, "the story of great and virtuous actions inflames us with a desire to imitate them. But there are some persons who, from their organization or from pernicious examples, have acquired disastrous inclinations, which are violently excited by the narrative of a criminal action that has become the object of public interest. From this point of view, the publication of crime is not without danger."

It is certain that this tendency to imitation is overpoweringly strong in neurotic subjects where impulses are not under sufficient control, either from the deliberate conviction that to obey one's impulse is a sort of religion or, at least, the only rule of conduct that a sensible man would observe;[3] a belief held by the late PAUL VERLAINE and the disciples of the Decadent school, or in that unhappy and not insignificant class in whom the impulse to commit a crime is not so much a matter of imitation, as an obsession,[4] dominating the thought, and sometimes beyond the power of the will to subdue.

Murder is a crime peculiarly liable to be a matter of impulse and imitation. How often it is committed by the victims of the mental *bouleversement* above referred to, may be seen by a glance at the literature of this subject. There is a fact reported by SAMPSON. "It was stated by MR. EWART in the House of Commons, upon the most unquestioned authority, that out of 167 persons who had been executed during a certain period, 104 had been present at executions. The mental process that takes place in the minds of criminals at the spectacle of an execution is well illustrated by a case of DESPINE'S. In this instance, decapitation seemed too puerile a thing to turn a man from a course of crime.[5] The "thrill" of emotion experienced by the humane witness of an execution by decapitation is thus described by BYRON:[6] "The first (beheading) turned me quite hot and thirsty, and made me shake so that I could hardly hold the opera glass (I was close, but was determined to see, as one should see everything, once, with attention); the second and third (which shows how deadfully soon things become indifferent), I am ashamed to say, had no effect on me as a horror, though I would have saved them if I could."

In the classical case of WILHEMINA STROHMIN fully described by PROFESSOR HOPF,[7] we get an instance of the full effect and sequel of these emotions in a neurotic respect. As this case displays in a very striking manner the anatomy of a morbid criminal obsession, we shall give some details. There is no essential difference, as far as the *effect* goes, between witnessing an execution and reading about one in the papers. The spectacle of an execution makes such an impression on this girl, that the idea that she must end her life in so "beautiful" and "public" a manner takes complete possession of her mind. In her own words: "the pomp of the military escort, accompanying the prisoner to his doom, the crowd of spectators, the pity which, despite the atrocity of the crime,

[1] Sampson: Criminal jurisprudence in its relation to cerebral organization, London, 1845. Krafft-Ebing: Beiträge, etc. Erlangen, 1867, *Ibid.* Vierteljahrschrift f. ger. med., 1854. Marc Ideler, Die Geisteskrankheiten in Beziehung zur Rechtspflege, 1843. Le Grand du Saulle: La folie devant les tribunaux. Despine: Psychologie naturelle. *Ibid:* De la contagion morale. Du danger que présente pour la moralité et la sécurité publiques la relation des crimes donnée par les journaux, Marseilles, 1879. Paul Aubry: La contagion du meurtre, Paris, 1894.

[2] De La Place: Essai philosophique sur les probabilites, p. 209. This is a passage from Le Grand du Saulle: "On ne saurait croire combien les récits dramatiques et lugubres frappent les esprits faibles ou les individus prédisposés à la folie. Cette clinique journalière du crimes de l'aliénation mentale, du suicide et des exécutions judiciaires, qui malheureusement s'introduit de plus en plus dans les habitudes du journalisme parisien, a des consequences vraimant fâcheuses pour le goût public, la morale, le repos et la santé des populations," supra p. 48.

[3] A number of well known criminals have expressed this belief in their writings. See: Rapport médico-légal sur l'état mental de Lucien Morisset, inculpé de vol et d'assassinat par les Drs. Danner et Le Grand du Saulle, Ann. d'hygiène. 3e Série, vi, p. 342. Other examples may be found in *Ibid.* p. 484. Krafft-Ebing: Vierteljahrsch. für ger. Med. Op. cit. Prosper Lucas: Sur l'imitation contagieuse, Paris, 1833. Delasiauve, Journ. de Méd. mentale, 1865, 333. Spielmann Diagnostik, p. 500. Marc Ideler. Geistes-krankheiten in d. Bez. zur Rechtspflege.

[4] For cases, see Magnan, L'obsession criminelle morbide. A most interesting example is given by Wille: Archive f. Psychiatrie, xii, p. 21.

[5] De la contagion morale, p. 10.

[6] Moore's Life, Pt. ii, p. 269.

[7] Henke's Zeitschrift, 1829 T. 90, p. 429.

shone in many eyes, the firm bearing of the culprit, his speech to the people, his subsequent confession to the priest of The Eternal, the rapid and dreadful incident of hanging," etc., was all profoundly felt, and it proved sufficient to turn an excitable head, in search of notoriety. She commits murder in the excitement brought on by the tumult of such thoughts.

Other cases of this kind, of more recent occurrence, have been collected by DESPINE,[8] PAUL AUBRY,[9] LE GRAND DU SAULLE,[10] and others. In these the influence of the newspapers is very apparent. They must accept a certain amount of responsibility here. What was formerly furnished as an incentive and stimulus to perverted minds, by the naïf customs of ancient executions, is now supplied by the details and illustrations in the daily papers. We are given the most minute descriptions of the *vie intime* of criminals, their appearance, dress, political and religious ideas, their presents of flowers, reception of sympathetic friends, their "remarks" on various matters of public interest, prison life, bearing in court, etc., with lastly, the lugubrious and emotionally written incidents of their sentence and execution. All this is diffusely printed, widely circulated, greedily read and discussed. It is, therefore, not in the least surprising, (knowing as we do how the morbid criminal obsession is awakened) that in countries where the newspapers are particularly sensational, France, for instance, and the United States, serious crimes, such as murder and arson, crimes which it is certain, are liable to be epidemic at times among the depraved and degenerate, have grown enormously in number of late. It has been shown that in France the serious crimes have increased since 1826, 150 per cent.[11] An increase of alarming extent has been observed too, in Germany, Italy and England.[12] In the United States, murders, according the best statistics we have, those published by the Chicago *Tribune*, have increased from 1,808 in 1885 to 10,500 in 1895!

It is not a pleasing prospect that these figures afford. What makes matters worse, is the fact that the great publicity given to crime has an educational value for criminals, enabling them to accumulate experience, observe how particular crimes failed and why, and avoid similar pitfalls. That criminals analyze the the cases of noted villains, and profit by such study, we know from their own written testimony, which may be accepted, especially if it is like the following: "I studied," says MORISSET,[13] "theft and its consequences, crime and its effects; and, well I observed this fact, that theft can be discovered in the actions of the majority of men. Does not the pimp profit by the labor of workingmen? Does not the merchant grow rich on the aptitudes of his employes?" This passage is extremely characteristic.[14] Criminals are often strangely impressed by the example of great villians. MORISSET thus wrote of the murderer LACENNAIRE: "L. is a splendid man, a powerful personality. His work leads to inferences of enormous importance. If I was, in theory at least, superior as a man of action, LACENNAIRE was incomparably stronger."[15] etc. LE GRAND DU SAULLE, who examined MORISSET, ascribes the utter absence of the moral sense revealed in these passages, to the influence of literature. In these cases there is abundant evidence to show that the tendency to imitation, which in many is morbid, is purely the result of calculation, in which it would be difficult to find any traces of insanity. But we find certain traces of moral contagion, a perversion of which the above citations are singularly good examples, a contagion disseminated largely by means of the papers. "The rôle of the press in the spread of this contagion," says PROFESSOR LACASSAGNE,[16] "is no longer deniable. Without going back to the woman, LOMBARDI, to MORISSET, to TROPPMANN and to CORNIER, the recent attempt upon JULES FERRY is the most remarkable example; the previous excitations of the press fall like poisonous seeds upon an especially prepared soil." To the influence of this contagion he attributes the growing number of murders by *dépêçage*, or dismemberment, which, he says, have become the fashion.[17] "The diffusion of the press, transmitting everywhere with an unparalleled precision and minuteness, the romances of the courts, the deeds and sayings of great criminals, becomes thus a school of exposition for weak and vacillating spirits, seeking with hesitation the method of committing a crime that has proved most successful." We have, in this country, reached the highest point of this contagion in the example of HOLMES, whose case is too notorious to need any further mention.

We must leave the subject here hoping, however, that some day, in response to public opinion, a remedy may be given for a disquieting state of things. Nobody would deny that the press is, on the whole, a beneficent institution. No one, we suppose, would wish to control its freedom. Yet, if it could confine itself to the barest account of a crime, being content to state the facts and nothing else, it would be free from n influence that does it little credit, and that its better members are not slow in censuring.

EMBARRASSING DEFECTS IN ENGLISH SANITARY ADMINISTRATION.

The sources of official responsibility among sanitary officers are twofold and often-times inharmonious. At the present time mistrust and discontent are rife in the medical branch of sanitary service. A scandal

[8] Op. cit.
[9] La contagion du meurtre, Paris, 1894.
[10] La folie devant les tribunaux, p. 538.
[11] Ferri: Soc. criminale.
[12] Morrison: Crime and its causes, p. 31.
[13] Op. cit.
[14] Others like it may be found in Lombroso's Palimpsestes des prisons.
[15] For an account of Lacennaire, see Corre, Les criminels.
[16] Archives d'anthropologie criminelle, 1888, p. 289.
[17] Ibid. p. 249.

has recently sprung up in the heart of London in consequence of which a number of officers became involved in charges of corrupt dealings with real-estate agents. The *Press and Circular* alludes to these troubles in an editorial, offering as a solution of many of the regnant difficulties that the Medical Officer of Health be given the power of appointment and control of all his subordinate inspectors. It further says: "Of late years London has been making great strides in the onward march of preventive medicine, a fact upon which the inhabitants of the greatest and richest city in the world may well be congratulated. In various ways, however, the metropolis is a laggard in the scientific race, and compares unfavorably with many provincial towns, such as, for instance, Newcastle and Glasgow. There can be little doubt that the lack of intelligent public interest has lain at the root of this lamentable backwardness in a matter so deeply affecting the welfare of the community as the administration of sanitary affairs. Until recently Londoners have been content to leave the management of their roads, of their water supply, of their sanitation, of their poor-law service, in the hand of local bodies, which were only too often corrupt nests of nepotism and jobbery. With the advent of the London County Council, however, and an awakening of general interest in municipal matters, the promise of a purer and a fairer future was gladly welcomed by the sanitary reformer. But the day of full salvation is not yet with us. In many of our metropolitan districts, rich and poor alike, the Vestrymen or Councillors are chosen by small hole and corner cliques, and are elected as local rulers and administrators of vast sums of money without even the formality of a public election. For such a travesty of representative local government the citizens have themselves to thank. The voters hold the key to the situation, and if they choose to organize their ranks, nothing would be easier than to return to the Vestries men of good standing and unblemished character, in whose hands the public weal would oust all mere party purposes and the sordid filching and diversion of the ratepayers' money, which is, perhaps, best described by the terse and expressive term jobbery. Turning to details of practical health work, we are at once struck with the importance of the sanitary inspector, who is, as it were, the policeman of preventive medicine. As the servant, first of the medical officer and then of the Vestry or Council, it is his duty to investigate and to report upon the multifarious details that are brought within the purview of local health committees. Sanitary inspectors as a whole, we are glad to believe, constitute an honorable and useful body of public servants. On the other hand, it is a matter of common knowledge that a certain number of them are unfit for their position, and may be regarded as inheriting the traditions of the bad old days of vestrydom. But apart from the black sheep, it may be fairly questioned whether the whole position taken up by the sanitary inspectors does not require serious consideration. The claims of these subordinate officials, as it would appear from a perusal of the reports of their association meetings, have grown until the Liliputian body imagines itself nothing less than a giant of Brobdignag. The sanitory inspector, as pictured by the association, is in future to become a kind of inspector, lawyer, medical officer of health, doctor and engineer, who is to act under and report to the Vestry; to carry on his own scientific investigations; to be his own hygienic lawgiver." To conclude and to "put the matter in a nutshell," it is that the choice and control of his subordinate sanitary inspectors should be centered absolutely in the Medical Officer of Health. Past experience has proved over and over again that of all men the sanitary inspector is least fitted to serve two masters.

A MUCH-NEEDED REFORM BEGUN.

Elsewhere in this issue of the JOURNAL will be found the details of a case of murderous malpractice by a midwife which has led to action by the Illinois State Board of Health that promises quite far-reaching results and a much-needed reform in the practice of midwifery, at least in large cities.

The case was made the basis of an appeal to the State Board by the Acting Commissioner of Health of Chicago, DR. F. W. REILLY, who also submitted therewith the following preamble and rules and regulations:

WHEREAS, The act constituting the State Board of Health of the State of Illinois, in force July 1, 1877, charges the Board with "the general supervision of the interests of the health and life of the citizens of the State," and empowers it with "authority to make such rules and regulations . . . as it may from time to time deem necessary for the preservation or improvement of the public health;" and

WHEREAS, The unregulated practice of midwifery, which allows midwives to prescribe for the serious illness of the lying-in, to apply instruments, to perform grave operations and to assume the conduct of other than cases of natural labor, results in a great and avoidable increase in the mortality of mothers and the newly born, to the detriment and injury of the health and life of the citizens of the State;

Therefore, The Board, in regular quarterly meeting assembled in the city of Chicago, does, this twenty-eighth day of April, A. D., 1896, hereby adopt and promulgate the following rules and regulations for the practice of midwifery by midwives licensed in accordance with the Act to regulate the Practice of Medicine in the State of Illinois, in force July 1, 1887, to wit:

Rule 1. A midwife, licensed by the certificate of the State Board of Health, is authorized and empowered to attend cases of natural labor only, and no other; and, after such labor, to attend the mother and child—all such attendance to be under such rules and regulations and medical control or supervision as may be prescribed by the health authorities of the city, town or village in which the midwife resides or practices.

Rule 2. Before such rules and regulations shall be valid and in force they shall be submitted to the State Board of Health for approval; and upon such approval, and their due publication to those interested, they shall have the same force and effect as other rules and regulations of this Board.

Rule 3. Due publication of said rules and regulations shall consist in furnishing one printed copy thereof, by mail or otherwise, to each registered midwife in the respective city, town or village.

Rule 4. Any act of practice—as by prescribing drugs and medicines other than the simple aperients, cathartics and diuretics, or the administration of anesthetics, or the application or use of instruments—in violation of the rules and regulations herein provided for, shall be held to be the unauthorized practice of medicine and surgery as defined in Section 10 of the Medical Practice Act of 1887, and the offender shall be liable to the penalties prescribed in Sec. 12 of said Act.

These rules and regulations were unanimously adopted, and it now remains for each municipality in the State to prescribe such restrictions through its health authorities as may best meet the individual conditions of midwifery practice in the respective localities; these, when approved by the State Board, will have the force and effect of law.

If these regulations shall succeed in limiting the practice of midwives in Chicago to their attendance, practically as midwifery nurses, upon cases of natural labor only—anything further to be referred at once to the medical practitioner—there can not fail to result a material reduction in the puerperal mortality of that city. The action would seem to be a short-cut and a practical one to the end aimed at for years in England, where, according to the London *Lancet*, the second reading of the Midwives' Bill in Parliament is fixed for May 6, but, as the *Lancet* confesses, with the very smallest chance of being enacted. There are, in fact, not one, but several bills in different stages of forwardness in that country, varying from one for the registration of existing midwives and women who have had a certain amount of training—which registration would confer the right to attend cases of other than natural labor—to "A Bill for the Prevention of Puerperal Fever" and others, which would limit the midwife to such attendance as is contemplated in the rules and regulations of the State Board of Health above given.

CORRESPONDENCE.

Notes on Omnicura and Bracelin's Bactericide.

To the Editor:—In this age of progress, when new inventions and discoveries follow one another so rapidly, it easily happens that some of the most marvelous are overlooked. Few in our profession are ignorant of the Roentgen rays and their value, but many are still unfamiliar with the Omnicura and Bracelin's bactericide, and with Mr. J. J. Russell, the genial and enterprising agent who offers these remedies to the public and the profession. This is not to be wondered at, as long as physicians continue to look for information in medical journals only, instead of perusing the "voice of the people" in the Chicago *Tribune*, where the marvelous cures effected by the Bracelin remedy may be daily read by a discriminating public.

But like the violet which blooms in modest retirement, the "Omnicura" blushes almost unknown and unnoticed; our profession still lingers in total ignorance of its virtues, the *Tribune* does not herald it forth; only pedestrians who cast a passing glance at the windows of Mr. J. J. Russell's Panaceum, seem to be aware of its existence.

The lamentable state of ignorance among physicians concerning these remedies, has induced me to write this letter to the JOURNAL. The Chicago *Tribune* only has so far taken an active interest in this subject, and as long as the department stores do not furnish medical reading, it will be the only organ deserving our admiration for its enterprise in that direction. Without it the Bracelin cure would waste its sweetness on the desert air; but nurtured in its bosom under the fostering genius of Mr. J. J. Russell, it has come to blossom like an octopus at the side of the omnicura. Armed with such weapons he defies diphtheria, scarlet fever and pneumonia, and he would not lose his head in an epidemic of Asiatic cholera. In such an event his fertile mind would not fail to provide the Bracelin bactericide with suitable pumping implements, and the "Voice of the people" would have to be issued in extra bulletins to keep pace with scientific progress.

To those who have failed to keep up with medical advance and are ignorant of the Bracelin cure, I owe a few words of explanation. Mr. J. J. Bussell, who is one of the most remarkable men in this country, has informed me that its wonderful power as a bactericide is due to the presence of chlorin deprived of its irritant qualities by a process discovered by Dr. Bracelin, after severe mental effort extending over fifteen years. Dr. Gehrman, of the Chicago Health Office, has demonstrated that it differs from all known antiseptics in one particular: The latter kill bacteria; but the bactericide does not. I have myself verified the presence of a slight amount of hydrochloric acid and menthol in the air inhaled from it; but chlorin is totally absent, which is a great advantage, because the latter is very irritating.

The difficulties that meet young physicians in their efforts to gain a livelihood are daily increasing. Many a one starts out with a bold outlook in the future, who soon realizes that all his hopes rest on quicksand only, and if he does not succeed in making a bold strike at fortune, he sinks deeper and deeper in the slough of oblivion. To such I can give only one advice: Write a letter to the *Tribune* glorifying the Bracelin cure, and enduring fame will henceforth attend him. His name will continue to appear in public print as a man of genius and learning, his fame will be only second to that of Dr. Bracelin and of his accomplished agent, Mr. J. J. Russell, and with theirs it will be handed down to future generations.

But on no account let any one write criticisms against the Bracelin cure; it can not stand it. And for this reason the *Tribune* defends it like an enraged lioness protects her defenseless offspring. Woe to him who does! He will be covered with infamy and everlasting ignominy.

But why does the *Tribune* glorify the Bracelin cure only and not the omnicura? Why praise the good and ignore the best? Reader, I am no judge in such matters, but I am convinced that the *Tribune* is actuated only by the purest philanthropic motives. It is in the broadest sense a truly representative journal, in which the high standards of honesty, morality and patriotism that prevail in Chicago, are blended in exquisite harmony.

MARTIN MATTER, M.D.

"A Wisconsin Diploma Mill."

MILWAUKEE, WIS., April 27, 1896.

To the Editor:—I would like to reply to Emil Bories, M.D., whose interesting communication appeared in your issue of April 25.

Section 1771 of the General Statutes of Wisconsin, as amended by chapter 220, laws of 1883, and chapters 180 and 352, laws of 1887, provide that, "Three or more adult persons, residents of the State, may form a corporation in a manner provided in this chapter to conduct, or pursue, or promote any one or more of the following named purposes."

Among many things it provides for obtaining a charter, which is to be issued by the Secretary of State, for "establishing and maintaining schools, high schools, academies, seminaries, colleges, universities, lyceums and the like." Also for the "Establishment and maintenance of any benevolent, charitable or medical institution, hospital or asylum, etc."

Under the provisions of this statute, the founders of the "Wisconsin Eclectic Medical College" obtained their charter.

Section 2340 of the general statutes provides for annulling corporations, and places the power in the hands of the attorney general in the State to take action in such cases.

Section 2341 provides as follows: "An action may be brought by the attorney general, or by any private party, in the name of the State, on leave granted therefor by the supreme court upon cause shown, for the purpose of vacating the charter, or annulling the existence of any corporation created by or under the laws of this State, except a municipal corporation, whenever such corporation shall:

"1. Offend against any of the provisions of any law, by or under which it shall have been created, altered or renewed; or

"2. Violate the provisions of any law, by which such corporation shall have forfeited its charter by abuse of its powers; or

"3. Whenever it shall have forfeited its privileges or franchises by failure to exercise its powers; or

"4. Whenever it shall have done or omitted any act which amounts to a surrender of its corporate rights, privileges or franchises; or

"5. Whenever it shall exercise franchises or privileges not conferred upon it by law."

I desire to state that very active efforts have been put forth by the health department of the city of Milwaukee to have this charter annulled, and the attorney general is at present engaged in pushing the matter to the courts as rapidly as possible.

U. O. B. WINGATE, M.D.,
Sec'y State Board of Health.

The Optician's Side of the Case.

MINNEAPOLIS, MINN., April 22, 1896.

To the Editor:—Your editorial remarks of April 18 on the "Ambition of the Optician," while thoroughly orthodox and unimpeachable, are yet suggestions of a controversy that has two sides to it.

We have a very virtuous feeling when we have pocketed 85 or $10 for a ten minutes' examination of a healthy presbyope, and yet we know perfectly well that an intelligent optician would have given the same glass and saved the patient our fee.

Of course there is the contingency of glaucoma, or some other disease of the eye, and so we can not admit the propriety of allowing the optician to meddle with eyes at all. Unfortunately for our pretensions the opticians and the public know us too well. They know that many of us give patients a less thorough, and in results, a less satisfactory examination than the better class of opticians and "refractionists," and we know that such superficial work is not to be charged up to "post-graduate fiends" so called. Some of the worst refraction work I have ever run across has come from eminent professors of ophthalmology in the East and West. For example, Rev. C. consulted an eminent professor on the New England seaboard and was given R. —3, L. a plain glass. Soon after an oculist in a large city in New York State gave him R. and L. —1.50 C. horizontal. Supposing, of course, that he could find relief in Chicago, he consulted Professor ——, who gave him prisms, 3 degrees each eye, base in. That finished him. He placed his collection of glasses, which he had never been able to wear, in the family museum, and determined to keep clear of oculists.

Having inveigled him into my office I found his refraction to be corrected as follows:

R. —2 = —.75 C. 70 deg. temporal = 20/20
L. —2, C. 70 nasal = 20/30

With this correction he has been able for the past two years to read and write with some degree of comfort. Of course, the case was difficult, but distinguished oculists are supposed to be equal to the emergencies. The man wanted relief and was willing to pay for it. He paid his money and he got in return the impression that he had been swindled.

A gentleman lately went to an optician and requested an examination of his vision. The optician soon found a high degree of hyperopia and a considerable degree of astigmatism, and thereupon advised that an oculist should be consulted. The man said he "would be ——" if he would see an oculist. He "had already paid Dr. ——," naming a prominent professor of ophthalmology, nearly a hundred dollars and had got nothing for it. Dr. —— had given him:

R. —1, C. 15 deg. — Pr. 3 deg. base in. L. —1.

My optical friend gave him

R. +1.50 = +.50 C. 90 deg.
L. +1.00 = +.50 C. 90 deg.

and he has relief from his asthenopia and a settled conviction that Dr. —— had "worked" him, and that oculists are shysters.

On a recent visit to a large Eastern city I found one of my friends wearing glasses prescribed by an optician. She had suffered from headache and had consulted a prominent oculist who, after a prolonged examination, informed her that she had no need of glasses. Later, while under treatment in Boston, she was advised by her physician to consult an *optician* who partially corrected a compound hyperopic astigmatism and cured her headache.

Twenty-one years ago, after having wasted two years valuable time through the incompetence of my medical advisers, East and West, I consulted a brilliant young oculist in the middle West. He used atropia, informed me that I had hypermetropia, and gave me +1 D. which I found worse than useless. A few months later a kind providence sent me to Drs. Williams and Ayres, of Cincinnati, where I got my first lesson in honest, careful refraction work, and a lesson that I shall never forget. At the end of ten days Dr. Williams gave me a correction for my astigmatism (simple) and I was cured.

My experience has given me a hearty contempt for specialists who do superficial and dishonest work, and when I see such men forcing themselves into prominence by pure unadulterated gall, often disgracing chairs in medical colleges, and not infrequently securing positions of the highest honor in medical societies, I think I see the reason why medical men are so little respected, and why they have so little influence in securing legislation.

If the conditions as regards refraction work are unsatisfactory to oculists, they have themselves to thank for it in a large degree. This is certainly true in the northwest, where a few prominent men have abused the confidence of, and corrupted the profession, blackmailed the opticians and plundered the public. The public have at last learned that opticians and "refractionists" give them as good service as shyster oculists and with much less expense. The result is, oculists find themselves doing very little refraction work, except what is sent to them by opticians, and we have the delightful spectacle of professors of ophthalmology soliciting business and demanding commissions from opticians, and in other ways descending to the level of street fakirs.

In ——, Dr. —— and others who are so bitterly opposed to the pretensions of the opticians have greatly weakened their own position by the notoriously superficial work they have done in this line of refraction. When teachers of ophthalmology ride such hobby horses as the ophthalmometer and impose their resultant guess work upon the public, they have small reason for criticising the opticians, or even the fakirs.

If all oculists had followed the example of their Philadelphia confrères, by doing honest refraction work with the aid of atropia and retinoscopy, the optician's pretensions would have fallen flat. Under existing circumstances, however, it looks to even a prejudiced observer as though the opticians were having the best of the argument.

Respectfully,
EDWARD J. BROWN, M.D.

Dr. Sims' Perseverance.

WEST UNION, IOWA, April 24, 1896.

To the Editor:—In the address of Dr. Jelks in our JOURNAL April 18, there is clearly a misprint. I think this should be corrected in justice to the memory of Dr. J. Marion Sims. It furnishes stronger proof of the patient perseverance of this truly great man, and evidences his wonderful power to inspire confidence in his patients, as well as all who came in close relation with him.

In the eighth line from the bottom of the first column, on page 752, the word "thirteenth" I think should read *thirtieth*. In 1876, when president of the AMERICAN MEDICAL ASSOCIATION in Philadelphia, he reported the tediousness of his efforts to perfect an operation for the cure of vesico-vaginal fistula, and remarked that the young colored woman mounted the operating table hopefully the thirtieth time. On page 52 of the "Report of Columbia Hospital for Women," by J. Harry Thompson, A.M., M.D., Government printing office, 1873, you will find the same statement, in an address delivered before the Academy of Medicine, New York, by Dr. Sims. Let Dr. Sims have all the honor—none can be too great—for his patient perseverance, and his ability to inspire hope and courage, as indicated by the fact that his patient was "placed upon the operating table the thirtieth time," instead of the thirteenth, without a murmur at "preceding failures." To any who personally knew Dr. Sims, or had met him occasionally, any matter to his credit would merit all the amplitude possible.

Fraternally, S. E. ROBINSON, M.D.

A Correction.

MINNEAPOLIS, April 19, 1896.

To the Editor:—In your report of the proceedings of the Tri-State Medical Society, in your last issue, I am so grossly misrepresented in what I said, that I must beg you to place this brief correction in your next issue.

The title of my paper was "The Relationship Existing Between Oculists and Opticians." You quote me as saying that I "advanced strong arguments in favor of licensing opticians to *fit* glasses." Had you said "*dispense*" instead of "*fit*," you would have expressed my sentiments. There is as much difference between dispensing and fitting glasses, as there is between dispensing and prescribing medicine; and the optician should occupy the same relation to an oculist, that a druggist does to the general and special medical practitioner, viz., a preparer and dispenser of specified remedies (glasses), upon the receipt of a physician's (oculist's) written prescription.

I claim that correcting errors of refraction is practicing medicine, and that no one should be allowed to practice any department of medicine, including refraction, unless he is a properly qualified, licensed graduate in medicine. I also advocate that as in most States, a druggist can only compound prescriptions after having obtained a pharmaceutic license, so opticians should only be allowed to dispense glasses when permitted to do so by a "State Board of Opticians" to be appointed by the governors of the different States.

Respectfully, FRANK ALLPORT, M.D.

"A Credit to America."

WINNIPEG, April 22, 1896.

. . . . . .

The JOURNAL is improving every week—a credit to America.

Yours faithfully, M. B. FERGUSON, M.D.

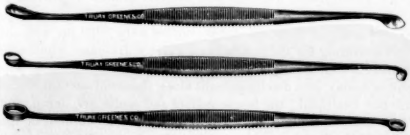
Total Extirpation of the Protsate Gland and Rectum.—Salischev describes in *Wratch* No. 2, the removal of the lower third of the rectum and the prostate gland on account of a scirrhous cancer, the fifth operation of the kind on record. The patient made a fine recovery but succumbed four months later to a meningo-myelitis. The necropsy showed that the operation weund had healed completely.—*Bulletin Médical*, April 5.

NEW INSTRUMENTS.

A COMPLETE SET OF CURETTES FOR MASTOID AND MIDDDE EAR OPERATIONS.

BY S. S. BISHOP, M.D., OF CHICAGO.

The illustration shows six curettes and spoons conveniently arranged in the form of three instruments. They are all sharp except one that I have had left dull for work in the immediate vicinity of the facial nerve.



The smallest one is my middle ear curette. The others are the sizes and forms I have found to be the most serviceable in the mastoid operations. It is a considerable advantage to have all the curettes we require within the compass of three instruments. It saves valuable time in selecting the various instruments as we proceed, and these all having the same general appearance, the eye recognizes them at a glance. The handles are flattened and roughened so as not to slip or turn easily. They will be found useful in other operations requiring curettes. They are fine specimens of the workmanship of Truax, Greene & Co.

PUBLIC HEALTH.

Enforcement of Registration Laws in Connecticut.—The last *Bulletin* of the State Board of Health reports that steps are being taken in the State to compel physicians to make more complete returns of the births. It says: "The habitual neglect of obeying the registration laws in regard to the reporting of births, by so many physicians, has driven the authorities to take peremptory action. The Health officer of New Haven County gave a list of delinquents last month to the prosecuting attorney. The latter, in a spirit of leniency which he says will not continue, refrained from prosecuting the law-breakers, but wrote them each a warning that future complaints would be vigorously investigated and liabilities enforced. The Health officer of Fairfield County, caused the arrest of a prominent practitioner in Stamford, last month. In his case too, the court suspended judgment with an intimation that his future conduct would determine further proceedings. At a meeting of the County Health officers held in Hartford on April 4, it was voted: That in future an examination of all the certificates of births, marriages and deaths would be made and whenever a violation of the law was found, the name of the offending party will be given to the prosecuting attorney of the town in which the offence is committed. The certificates themselves are evidence, as the registrar is required to endorse on them the date of their return. In the hope of promoting more successfully the above intention, a circular letter has been prepared and sent to the physicians, setting forth the objects of the registration laws and their weighty importance to the public interest. Among other things, this circular says: 'The main purpose of the registration of vital statistics is to furnish to the public a reliable means of tracing relationship, upon which depends matters of inheritance, descent of property, pension rights, etc., and to furnish such records as will be reliable and full, years hence, when collateral sources of information have disappeared.' The circular dwells upon the importance of exactness in the statement of particulars. 'Many inaccuracies and abbreviations appear in the certificates, which at first seem to be of little importance, yet when the purpose of the record is considered, it is seen that the certificate is vitiated for the purpose for which

it is designed.' Public opinion will sustain the action of the county officers in requiring an observance of these laws."

Drainage and Sewerage of Rochester, N. Y.—Dr. George W. Goler, of the Rochester Department of Health, has recently delivered before a local scientific body, an address on the sanitation of that city. He began by saying that in the earliest days natural drains, ancient watercourses, were utilized as open drains, and later to some extent served as ditch drains, along which house drainage and rainfall alike were carried to their final destination. When the city began to be laid out in streets many of these old water courses were filled up without first providing for the rainfall and surface drainage, which still found its way to and along these old levels. The result was and is to-day that dwellings built along these old natural drains are not healthful; the house cellars and walls are damp, and their inmates would be found to furnish a large number of the sick and dead of our city. At first these open ditches served the double purpose of removing rainfall and house waste, but the unsightliness of these ditches and the offensive smell led to the establishment of the covered drain or box sewer, later to the stone sewer, then in an intermediate stage to the cement pipe sewer, and lastly to the sewer of vitrified pipe, and for trunk sewers the circular or egg-shaped sewer of heavy masonry, brick or stone.

"The stone cement pipe sewers were an improvement upon the old box sewers, but even they were often very imperfect. Until about 1880 the stone sewers were built square in form with plank bottoms. They were not tight and they were of shallow depth, allowing of accumulation of filth within and fouling the ground for some distance without. The cement pipe sewers were rough and imperfectly joined. Time and the action of sewage produced disintegration of the rough cement pipe through which sewage found its way to the surrounding ground, converting it into a quagmire. Added to the ditches and imperfect sewers, which daily aided in polluting the soil and air in and around our dwellings, were myriads of vaults and cesspools. Although many houses had facilities, such as they were, for disposing of sewage, all did not avail themselves of these facilities—the owners in many cases preferring to carry a drain, often of wood, back into adjacent ground or into the vault. When vault and cesspool were separate they most often consisted of a hole in the earth, sometimes boxed in with rough boards—rarely tightly built of stone or brick—into which a box drain emptied. These cesspools, or cesspool and vault combined, formed the common type of receptacle for house drainage and human excrement. Thousands of such vaults and cesspools dotted the city everywhere, and, to make matters worse, they were often multiplied by covering over a full vault or cesspool with earth and digging a new hole alongside of it. How many of these vaults and cesspools were formerly to be found we do not know, but we do know that at the present time, with a better system of sewers extending to nearly all parts of the city, with improved fixtures and plumbing apparatus that makes it safe to have retiring conveniences within the house, more than 15,000 vaults are in use in Rochester."

Administrative Procedures against Tuberculosis.—The *Glasgow Sanitary Journal*, for February, taking for its text the recently published report of Dr. James B. Russell, the senior medical officer of health for that city and a sanitarian of intercontinental repute, discuses the subject of official measure proper to be taken for the prevention of tuberculosis.

"As to particular administrative procedures, it is pointed out that, though the compulsory notification of consumption has often been discussed, it has not been anywhere adopted; that though isolation has been spoken of, it is only the last stage of consumption that is essentially dangerous, but that for such cases there should be some provision; that as to disinfection, it should always be carried out after death, and if necessary by the local authority; and that public instruction as to the precautions that are really of consequence is of much importance. Concerning tuberculous meat and milk, Dr. Russell still holds that, if an animal is affected by tuberculosis in any part of its body, the only practical way of dealing with it is to condemn the whole carcase. Here, no doubt, he would object to the practice of some of the largest municipalities on the continent where this view is not adopted, and where the meat after sterilization by heat is offered for public sale at a low rate. It is very doubtful, however, whether meat so treated would be bought even by the poorest of the population in this country. In the report it is argued with considerable ingenuity, though not, we venture to think, with the certainty of conviction to the mind of the reader, that the decisions of the late Royal Commission are to be taken as falling in with the Glasgow system, whose enforcement was successfully fought out before the law courts in 1889. With regard to milk, however, it is not easy to object to Dr. Russell's conclusions. On this subject his deliverance is that 'the importance of taking immediate action in the direction of eliminating tuberculous cows from the dairies, first of all in Glasgow, and next from those sending milk into Glasgow, can scarcely be exaggerated. It is at least equivalent in promise of beneficial results to any part of the special action recommended in this report. . . . Science has provided in tuberculin a test which overcomes that difficulty of diagnosis of tuberculous disease in the living animal which has hitherto made professional opinion uncertain or only equivalent to suspicion, and therefore insufficient to support decisive action. This test can be systematically applied only by a specially qualified veterinary surgeon.' Very much weight is attached to the value of general hygiene in the prevention of tuberculosis, and it is pointed out that in Glasgow, as a result of general sanitary progress, the mortality from phthisis has fallen in such a manner as in some continental centers and by some authorities is attributed to the special precautions regarding sputum, etc., which have within the last few years been carried out there. 'We are warranted,' says Dr. Russell, 'in asserting that among infectious diseases, tuberculosis is the most amenable of all to general hygienic measures; that, in fact, from these alone as good results are obtained as from hygienic measures plus isolation, disinfection, etc., in the case of diseases popularly known as infectious.' This statement, however, is guarded as follows: 'It is not implied that special measures directed against the infectivity might not have produced even better results; but in view of what has been accomplished, and in view of the difficulties in the way of special prophylaxis, it is contended that more is to be expected from general hygiene.' In parallel columns Dr. Russell quotes from Dr. Thorne Thorne a specification for building a dwelling-house which will promote, and another dwelling-house which will prevent consumption. The former is to have a soil cold and damp or subject to the influence of the rise and fall of subsoil water; the walls are to be liable to dampness; the surroundings are to be such as to prevent the free movement of air and the ample exposure to sunlight; the building is to have such structural defects as will prevent ventilation by night and day and the entrance of daylight into the habitable rooms. The other dwelling-house is to have provisions in all respects the reverse of this."

Bovine Tuberculosis.—*To the Editor:*—I enclose herewith copy of a letter which I am sending to the medical directors of leading life insurance companies and to the editors of the principal medical journals.

I hope that the importance of the subject will entitle it to space in the columns of the JOURNAL OF THE ASSOCIATION and that you will assist in securing such a discussion of the subject as shall result in a diminished death rate.

Respectfully yours, HOWARD CARTER, M.D.

Milk Inspector's Office, St. Louis, April 20, 1896.

To the Chief Medical Directors of Life Insurance Companies:

Gentlemen:—We are convinced that the great prevalence of tuberculosis among dairy cattle and the transmission of infection to human beings through the meat and especially through the milk of such animals is not second in importance to any question confronting the intelligent medical men of the day. I have demonstrated the presence of bacillus tuberculosis not only in the lesions and pus but in the *milk* of cows apparently healthy which reacted to the tuberculin test, establishing the identity of bovine with human tuberculosis and confirming the examinations reported by Drs. Salmon, and Smith of the U. S. Department of Agriculture, and others. I am not aware that this aspect of the subject has been at any time brought to the attention of life insurance companies. Its direct bearing upon the public health and consequently upon the death rate should specially commend it to them as a problem the practical solution of which would result in a saving of thousands of human lives and of millions of dollars annually. Not only would the death rate be reduced, but an improved vitality would be developed in coming generations by avoidance of the entry into the system of toxic germs, which, if they do not directly lead to conditions resulting in death may lie dormant until the general

vitality is sufficiently lowered to permit their full development. In bringing this matter to your attention I desire to request an energetic and persistent demand from the medical profession in general and from the directors of life insurance companies in particular for the enactment in all States of protective legislation, protection that will protect and benefit our whole people and diminish the ravages of this most insidious and dreaded enemy of the human race.

Very respectfully, HOWARD CARTER, M.D.
Milk Inspector, St. Louis.

Health Circular No. 1.—The State Health Officer of Indiana has issued the following circular, concerning how certain foods shall be protected from dust pollution.

In many cities and towns it is the custom for grocers, butchers and other venders of food, to expose their wares in front of their shops and stores. Butchers very frequently make an unusual exposure of meats to the dust and filth of the street. Grocers expose on the sidewalks in front of their stores, dried fruits, smoked meats, etc.

Objections: The dust that floats in the air contains a great deal of filth. It carries pulverized manure, dried catarrhal and consumptive sputum, and much other offensive matter, besides microörganisms of all kinds. All this we must endure, to the evident disadvantage of our health, when we walk abroad in cities where dust is not kept down. It is not well, however, that we should eat dried manure and dried spittle on our meat and groceries, even if cooked.

What to Do: County Health Officers are hereby directed to issue written orders to all butchers and venders of meats not to expose outside their shops carcasses or parts of carcasses, of any animal intended for food. Neither shall dressed meats be transported through the streets without being protected from dust. Grocers must be ordered not to expose dressed poultry, nor uncovered smoked meats, nor uncovered dried fruits as dried apples, dried peaches, currants, etc., nor indeed any foods which may become polluted and corrupted by dust from the air in the way above described.

The Law: Section 2069 R. S. 1881 gives ample power to Health officers in this matter.

J. N. HURTY,
State Health Officer.

BOOK NOTICES.

I. King's College Hospital Reports, being the annual report of King's College Hospital and the Medical Department of King's College. Edited by NESTOR TIRARD, M.D., F.R.C.P., W. WATSON CHEYNE, F.R.C.S., F.R.S., JOHN PHILLIPS, M.A., M.D., F.R.C.P., W. D. HALLIBURTON, M.D., F.R.S. Vol. II. London: Printed by Adlard & Son, 1896. 8vo, cl., pp. 376.

II. St. Thomas' Hospital Reports. New series. Edited by DR. T. D. ACKLAND and MR. BERNARD PITTS. London, 1896. 8vo, cl.

III. Medical and Surgical Report of the Presbyterian Hospital, in the City of New York, vol. I, January, 1896. Edited by ANDREW J. MCCOSH, M.D., and WALTER B. JAMES. 8vo, bds., pp. 256.

I. This volume will not only be of interest to all old King's College men on account of its annual statements, but as well to all clinicians. The "Notes on Cases of Interest," by Prof. Rose, Prof. Cheyne, Mr. Careless, Mr. Burghard and Mr. Beale, are worthy of careful study. The reports from the various departments are unusually full and complete. The original papers by Dr. Tirard, Dr. Dalton, Sir Hugh Beevor, Mr. Cheatle, Dr. Short and Dr. Hewlett are valuable contributions to medical literature.

II. This is volume XXIII of the St. Thomas reports. It contains some very interesting papers by Drs. Cory, Payne, Sherrington and Cullingsworth, Mr. Battle, Mr. Stabb, Mr. Makins, Mr. Pitts, Dr. Ackland and Mr. Ballance. The paper by Mr. Pitts on umbilical hernia is alone worth the price of the volume, and the elaborate study of cerebellar abscess by Ackland and Ballance will make this series much sought after.

III. This is the first medical and surgical report of this hospital and we naturally turn to it with some curiosity. An examination of the work shows that this hospital has nothing to fear in comparison with the foreign hospital reports. There is no padding, but on the contrary concise and well-written accounts of interesting cases. The work done at this hospital, as set forth in this volume, is a credit to American medicine and surgery.

The Non-Heredity of Inebriety. By LESLIE E. KEELEY, M.D., LL.D. Chicago: S. C. Griggs & Co., 1896. 8vo, cl., pp. 359.

"Oh! that mine enemy would write a book," said Job. He might then have some basis to fight on and penetrate the designs of his persecutor. Dr. Keeley has now done what Job wished his enemy to do, and those who can read between the lines can easily see that his grievance, that of non-recognition by the profession, dominates the whole book. He ostensibly believes in the non-heredity and curability of inebriety. He thinks he is dreadfully severe in his criticism of the regular profession; in reality he is only exhibiting his sore spots. He starts out to discuss an alleged disease, but he discusses medical ethics more. Thus (page 14): "The pretense of 'regular medicine' is that all dogmas are rejected; but the meaning is that all new things are rejected." This statement is so absolutely false that any drug manufacturer, any drug importer, any dispensing pharmacist could tell Dr. Keeley that on the contrary the new things are sought after with eagerness.

Again (page 15): "The germ theory was ridiculed for fifteen years, while its defenders were ranked as 'quacks.' Electricity, hydrotherapy, massage, all were classed in their beginning as quackery. But the 'grand old profession' generally ends by adopting everything. It will some day, if its morals improve, adopt all the pathies, including Christian science. It will fight the question many years, possibly, but will some day incorporate into the code of ethics a provision which will give a physician a proprietary right to his inventions relating to surgical instruments and remedies." *Hinc illæ lachrymæ.* We shall indeed come to a pretty pass when we acknowledge with due humility Dr. Blank's patent cure for meningitis; Dr. Scovendyke's proprietary cure for cancer; Dr. Winkenpoop's own dose for folly, as well as Dr. Keeley's secret cure for inebriety. No, Dr. Keeley; come out with your formula, let us have something tangible, and then we can discuss it and adopt it if it seems wise; until then there is nothing to discuss, and as the book gives no information on that point, we end where we began.

The Toxic Amblyopias: Their Symptoms, Pathology and Treatment. By GEORGE E. DE SCHWEINITZ, M.D., Clinical Professor of Ophthalmology, Jefferson Medical College of Philadelphia. Very handsome octavo, 240 pages, 41 engravings and 9 full-page colored plates. Limited edition. De luxe binding, $4.00, *net*. Lea Brothers & Co., publishers, Philadelphia and New York. 1896.

The task of the reviewer is a very pleasant one if there is so much to praise and so little to criticize as in the book before us. A careful examination has convinced us that the author has overlooked nothing that has ever been published on toxic amblyopias. The book is an excellent summary of our present knowledge of toxic amblyopias and a complete dictionary of the literature on this subject up to the present time, and will prove a veritable gold mine of reference for future writers. Tobacco and alcohol amblyopia naturally receive the greatest attention, occupying almost one-half of the book; quinin amblyopia comes next in importance, and here the author's original experiments and microscopic investigations are of especial interest. The remaining space of the book is devoted to abstracts of the clinical reports on visual disturbances caused by arsenic, lead, opium, salicylates, iodoform and a large number of other drugs and toxic agents. The book is printed in clear, large type, on excellent paper and issued in a very pleasing dress of cream and gold.

New Truths in Ophthalmology, as developed by G. C. SAVAGE, M.D. Third edition.

In the third edition of this work the accomplished author has not attempted to advance any "new truths," but has added three new chapters in attempting to prove those already advanced. One of these is devoted to a reply to Dr. Hotz's

criticism on his theories of the action of the oblique muscles. The incorporation of such an article in a book without giving the original criticism to which it is a reply, seems hardly to be in a spirit of fairness. Another chapter is given to an article published in the *Ophthalmic Record*, by Dr. LOWRY, on the "Obliquity of Retinal Images in Oblique Astigmatism as Shown by Photography." The third is given to the author's address before the Eighth International Congress of Ophthalmology, without discussing the truth or falsity of the author's "truths." It is greatly to be regretted that he has not presented them in better form, avoiding the repetition and incongruity of a collection of papers and addresses on the same theories written at different stages of their development. The book is otherwise well written and contains a great deal of useful information.

NECROLOGY.

WILLIAM HUNT, M.D., for many years senior member of the surgical staff of the Pennsylvania Hospital, died on the 17th inst., in Philadelphia, of debility after several years of invalidism, following a severe injury received some years ago by being knocked down and run over by a wagon while crossing the street. It was believed in addition to fracture of ribs and other injuries, that he sustained a fracture of the cervical vertebræ. He had symptoms of concussion of the brain and for a long time was confined to the house and in fact never regained his health. Dr. Hunt was born in Philadelphia Sept. 26, 1825, and was educated in the Friends' School. He studied medicine in the office of Dr. George B. Wood, and was graduated by the Medical Department of the University of Pennsylvania in 1849. He entered the Pennsylvania Hospital as Resident Physician and served for two years. In 1854 he became demonstrator of anatomy in the University of Pennsylvania, and held this position for ten years. In 1856, he became a member of the surgical staff of the Episcopal Hospital and in 1863 was elected to the same position in the Pennsylvania Hospital, the former institution he served for twelve years and the latter for thirty years. He was also for a period surgeon to the Wills Hospital and to the Orthopedic Hospital. During the war Dr. Hunt was one of the Acting Assistant Surgeons of the United States Army, and was several times ordered to the front for active field duty. His principal military service, however, was in the government hospitals in Philadelphia. He served until the end of hostilities, but during all this period he refused to wear a uniform on account of his religious connection. He was a Fellow of the College of Physicians from 1854 to his death, and was for many years one of its Censors and a member of some of its most important committees. He was also a member of the County Medical Society, and of the Academy of Surgery (having been elected President of the latter) and an honorary member of the American Surgical Association. He joined the AMERICAN MEDICAL ASSOCIATION in 1859. Dr. Hunt's writings were eminently practical and his contributions to medical journals were always gladly received by the editors and readers. He was one of the authors of "Surgery in the Pennsylvania Hospital," and an associate editor of the *Annual of the Universal Medical Sciences*.

N. S. HILL, M.D., died at his residence in Neville, Ohio, April 13, where he has practiced consecutively for thirty years. He graduated from the Medical College of Ohio in 1862, was mustered assistant surgeon 121st O. V. I., Sept. 11, 1862, and served with that regiment until Oct. 28, 1864, when he was promoted Major Surgeon 52d O. V. I., and served as such to the close of the war. His army service included Gen. Sherman's Atlanta campaign and "March to the Sea." He was an active member of the Clermont County Medical Society, the Ohio State Medical Society and the AMERICAN MEDICAL ASSOCIATION. He was a prominent mason, Odd Fellow and member of the Grand Army of the Republic. He was for several years a sufferer from chronic interstitial nephritis, the immediate cause of death being ascribed to a mitral insufficiency. At his request he was cremated and his ashes interred in Spring Grove.

MOSES WADLEIGH RUSSELL, M.D., died at Concord, N. H., on April 18, aged 59 years. He was born in Sutton, N. H., studied at the Colby Academy, New London, same State, and under Dr. Dimon Davis began the study of medicine about 1860, taking his medical degree from Dartmouth College in 1863. During the following four years he attended the special courses of instruction at New York under Dr. Austin Flint and at the College of Physicians and Surgeons. He practiced for a few years at Sutton, going thence to Concord, in 1867 or 1868. He was a member of the representative medical societies of his localty, and in 1892 was president of the State Medical Society.

JAMES JAY MAPES, M.D., of New York city, died April 10, at Saranac Lake, aged 31 years. He was a son of Charles V. Mapes, and a great-grandson of Gen. James Jonas Mapes, who commanded the American forces about New York city in the War of 1812. He was a nephew of Mrs. Mary Mapes Dodge. He was an A.B. of Columbia College in the class of 1888 and a graduate of the College of Physicians and Surgeons in 1891; he became an interne of New York Hospital, and after returning from an educational trip to Europe took an internship at the Nursery and Child's Hospital. Dr. Mapes studied under Dr. Roux, in Paris, and when the discovery of the antitoxin treatment for the cure of diphtheria was made he brought the first vials of the fluid to this country. His health broke down six months ago, and he developed tuberculosis.

LEON DIDELOT, M.D., at Lyons, at the early age of 46. His name is familiar on account of his many scientific writings, showing his mastery of medicine, chemistry, geology, paleontology, archeology, mineralogy and physics.

GEORGE WIEBER, M.D., was born April 15, 1825, at Weitzler, Germany. His father was a Lutheran clergyman who realized the value of a liberal education and gave his son the advantage of his experience. Dr. Wieber pursued his study of medicine in Halle, Marburg and Giessen; and in 1848 entered the German army as surgeon, continuing his service during the short war with Denmark. After leaving the army he served as surgeon on an American clipper for several years. In 1857 he began private practice in a suburb of Brooklyn. He gained the confidence and respect of the medical profession in those early days. At the outbreak of the Rebellion, he entered the service as Surgeon of the German Battery, afterward a part of the First N. Y. Artillery. While Surgeon Wieber was stationed with his battery at White-House Landing (on the Pamunky river), Va., in May, 1862, the writer had occasion to accept of his hospitality; for after superintending the transportation of the sick and wounded from the front to the Landing one stormy day and night, he was wet, weary and hungry, and Surgeon Wieber sheltered, warmed and fed him. It was but one of many offices of kindness he delighted to perform.

Dr. Wieber served in other positions as medical officer to the army, after the reorganization of the Artillery, till he returned to private practice in Brooklyn. Although an able practitioner in good standing for so many years, Dr. Wieber was not legally qualified under the existing laws of New York State. He therefore submitted to an examination by the Board of Censors, in 1875, and was granted a license by the Kings County Medical Society. He continued the practice of medicine in Brooklyn until prevented by sickness, his practice being more laborious and humane than lucrative. In 1890 he received an unusual injury by a fall, rupturing the rectus femoris muscle of the right thigh, which crippled him for several months. He was a member of Dakin Post, G. A. R. He served as sanitary inspector to the Brooklyn Board of Health for five years. He was formerly a member of Kings County

Medical Society and of the Anatomical and Surgical Society. At the time of his death he was a member of the New York German Medical Society, an original Fellow of the New York State Medical Association, an original Fellow of the Kings County Medical Association and one of its Executive Committee from 1887 to 1892. Dr. Wieber's first wife did not survive long after the birth of her only child. His second wife to whom he was married on Feb. 10, 1863, was the widow of the late Dr. Haller. Two children, twin boys, died of diphtheria and scarlatina in February, 1873.

Dr. Wieber was taken sick on Dec. 15, 1895, with an obscure intestinal trouble which proved to be carcinoma of the mesentery, and died at his home Jan. 31, 1896, hemorrhage of bowels supervening. A year or more before his death, he delivered sealed instructions to his wife regarding the disposition of his remains, which were as follows, namely: "Dakin Post is to be notified at once to take charge of the funeral. The services are to be held in my residence, and to consist simply of the Grand Army ritual. I direct that my remains be taken to the crematory,and there incinerated, the ashes then to be interred in the graves of my two children, buried in Evergreen Cemetery." His instructions were complied with. His widow and daughter, Mrs. Schoonmaker, survive him, also his son Adolph, who graduated in medicine at Giessen, Germany, in 1889, and at Long Island Hospital in 1890.

The many friends and patrons of Dr. Wieber miss him and mourn their loss. The medical profession of Brooklyn has lost a zealous supporter of the principles which pertain to the highest type of its science, art and ethics. The Kings County Medical Association assures the family of its sympathy, and that it will retain pleasant recollections of its deceased Fellow.

ASSOCIATION NEWS.

Notice.—Members contemplating attending the Atlanta meeting will please bring their receipts for dues of 1896 and thereby save second payment. Very truly yours,

CHICAGO, April 23, 1896. H. P. NEWMAN.

Notice to the Ophthalmological Section.—The Section dinner will be held at the Aragon Hotel, Atlanta, Tuesday evening, May 5, at 8:30 P.M. The charge will be $2 a plate, and it is hoped that ladies will attend. The dinner is in the hands of Dr. Dunbar Roy, "The Grand," Atlanta, Ga. All desiring to attend will please communicate with him at once, that he may have some idea as to the number for which to provide. It is hoped that the attendance will be large.

FRANK ALLPORT, M.D., Secretary.

MINNEAPOLIS, April 21, 1896.

Section on Diseases of Children.

A. C. COTTON, Chairman, Chicago, Ill.
A. J. WORK, Secretary, Elkhart, Ind.
Executive Committee—C. G. JENNINGS, Detroit, Mich.; W. S. CHRISTOPHER, Chicago; E. H. SMALL, Pittsburg.

TUESDAY, MAY 5TH—AFTERNOON SESSION.

1. ADDRESS OF CHAIRMAN. A. C. COTTON, Chicago.
2. Functional Dyspepsia in Children, J. M. G. CARTER, Waukegan, Ill.
3. Diagnosis in Diseases of Children, C. G. SLAGLE, Minneapolis.
4. Pediatric Therapeutics as Proven by Experience, J. A. LARRABEE, Louisville.
5. Children of Feeble Resistance—Their Care and Management, JOHN MADISON TAYLOR, Philadelphia.
6. Fractures in the Shafts of Bone in Children, THOMAS H. MANLEY, New York.

Discussion opened by T. M. ROTCH, Boston; WM. PEPPER, Philadelphia; D. W. GRAHAM, Chicago; EDWARD H. SMALL, Pittsburg; I. N. LOVE, St. Louis; J. A. HOFHEIMER, New York.

WEDNESDAY, MAY 6TH—MORNING SESSION.

7. An Experience with Antitoxin with Instructive Results, JOSEPH WM. STICKLER, Orange, N. J.
8. The Fallacy of Antitoxin as a Cure for Diphtheria, ELMER LEE, Chicago.
9. Some Practical Points on the Effects of Antitoxin and Intubation with Especial Reference to Infant Feeding in Malignant Diphtheria, LOUIS FISCHER, New York.
10. Diphtheritic Laryngitis, A. CAMPBELL WHITE, New York.
11. Sepsis in the Newly Born, HENRY TULEY, Louisville.
12. Erysipelas in Infants, ELLA PATTON, Quincy, Ill.

Discussion opened by PROF. EDWIN KLEBS, late of Zurich; E. F. INGALS, Chicago; J. H. MCCOLLUM, Boston; W. E. CASSELBERRY, Chicago; J. A. LARRABEE, Louisville; JAMES B. HERRICK, Chicago; W. B. PARKS, Atlanta; W. D. BOOKER, Baltimore; CHARLES JEWETT, Brooklyn, N. Y.; J. C. HOAG, Chicago.

WEDNESDAY, MAY 6TH—AFTERNOON SESSION.

13. Chorea, HENRY HATCH, Quincy, Ill.
14. Pertussis as a Neurosis, S. J. RADCLIFFE, Washington.
15. Treatment of Infantile Spinal Paralysis, HAROLD N. MOYER, Chicago.
16. Petit Mal in Children, LOUIS BISHOP, New York.
17. Observations in Cases of Epilepsy following Injuries to the Head in Infancy, Childhood and Early Youth, W. A. DIXON, Ripley, Ohio.
18. Spinal Injuries in Infants, JAMES PORTER FISKE, New York.

Discussion opened by D. R. BROWER, Chicago; WM. OSLER, Baltimore; SAMUEL WOODY, Louisville; J. C. WILSON, Philadelphia; WM. E. WIRT, Cleveland; SANGER BROWN, Chicago.

THURSDAY, MAY 7TH—MORNING SESSION.

19. Entero-Colitis, DANIEL H. CUNNINGHAM, Chicago.
20. Intussusception, FRANK GIBSON, Pittsburg.
21. Use of Stomach and Rectal Tubes in Gastro-Intestinal Diseases of Children, W. JAY BELL, Atlanta.
22. The Use of Physostigma Venenosum in Cholera Infantum and Cerebro-Spinal Congestions, J. SCHNECK, Mt. Carmel, Ill.
23. To be announced, JOHN E. WOODBRIDGE, Cleveland.
24. Typhoid Fever in Children, JOHN A. ROBISON, Chicago.

Discussion opened by W. B. PARKS, Atlanta; E. P. BRUSH, Mt. Vernon, N. Y.; J. M. G. CARTER, Waukegan, Ill.; W. D. BOOKER, Baltimore; W. JAY BELL, Atlanta; LOUIS FISCHER, New York; ELMER LEE, Chicago.

THURSDAY, MAY 7TH—AFTERNOON SESSION.

25. Curvatures of the Spine Occurring in Small Children, WILLIAM E. WIRT, Cleveland.
26. Children's Shoes: Injurious Effects, MERRILL RICKETTS, Cincinnati.
27. Rachitic Deformities and their Treatment, JOHN RIDLON, Chicago.
28. Rachitic Chest Deformity in Twins, with Exhibition of Casts, W. J. BELL, Atlanta.
29. Circumcision is not Necessary in Young Children, W. B. PARKS, Atlanta.

FRIDAY, MAY 8TH—MORNING SESSION.

30. The Evolution of Girls, HARRIET E. GARRISON, Dixon, Ill.
31. High Pressure Process of Teaching in our Public Schools, considered from a Medical Standpoint, W. H. SHORT, La Grange, Ind.
32. To be announced, I. N. LOVE, St. Louis.
33. Retention of Urine in the Newly Born, EDWARD H. SMALL, Pittsburg.
34. Infantile Scorbutus, ALBERT H. BURR, Chicago.
35. Rheumatism, SAMUEL E. WOODY, Louisville.
36. Rheumatism in Children, J. A. HOFHEIMER, New York.

Discussions opened by WM. OSLER, Baltimore; WM. PEPPER, Philadelphia; WM. E. QUINE, Chicago; J. A. WORK, Elkhart, Ind.; SARAH HACKETT STEVENSON, Chicago; G. W. MCNEIL, Pittsburg; JAMES B. HERRICK, Chicago.

SOCIETY NEWS.

The Roentgen Rays as an Aid to Surgical Diagnosis.—At the last meeting of the Academy of Surgery, held April 6, Dr. Thomas G. Morton, Philadelphia, read a brief "Note of a case in which a pistol bullet imbedded in the shaft of the radius was located by the X rays and successfully removed by operation based upon the skiagraphic aid to diagnosis." The history of the case was as follows:

William L., aged 30 years, of dark skin, probably a Mexican native or a mulatto, was brought to the Pennsylvania Hospital, Feb. 28, 1896, suffering with a recent pistol shot wound of the

right forearm, received in the act of running from an officer. Upon examining the limb it was ascertained that the ball had entered on the outer side, just below the elbow, and had apparently passed in a downward direction, but all efforts to locate the missile definitely were unsuccessful, not only upon this occasion, but also in subsequent attempts while in the hospital. Two weeks later, by order of the court, the patient was sent to the county prison, where Dr. Morton again saw him, with Dr. B. F. Butcher. At this time the wound was still open and discharging moderately; radius motion was painful and greatly restricted. There was no evidence of transverse fracture of either bone of the forearm. On account of the local symptoms and the forearm being very large and muscular, he decided not to make any immediate search for the ball, which was causing considerable irritation, but to first locate, if possible, the ball by means of the X rays. Through the kindness of Professor Goodspeed, of the University of Pennsylvania, he was able to accomplish this. As the result of several exposures, none being over five minutes, three skiagraphs were made, which were exhibited. Professor Goodspeed sent the following report: "Experiment eminently successful. Radius is split two and one-half inches. Bullet located four and one-half inches from the elbow joint when the arm is flexed inside."

Acting upon the information thus given on the following day, March 27, Dr. Morton made an incision directly over the location thus revealed, and discovered the ball lying partly imbedded in the radius, under a splinter of bone which roofed it over as is shown in one of the skiagraphs. Having found the location of the ball it was extracted without difficulty. It was observed, after removing the ball, that it had penetrated so deeply that an opening was made directly through the shaft of the radius and a portion of the upper surface had become separated and overlaid the missile, which accounted for the previous failures to find it by the usual means. This appears to be the first case in this city in which the Roentgen rays have settled an otherwise unsolvable problem of surgical diagnosis and have lead directly to operation for the relief of the condition.

Experiments by Professor Goodspeed and Dr. Cattell, at the University of Pennsylvania, Department of Physics, have been successful in very materially reducing the time needed for exposure to the rays and the production of skiagraphs, one being recently obtained of a human foot covered by stocking and boot, which showed the articulations and bones very clearly, and in which the time of exposure was only one minute.

To Prevent the Spread of Tuberculosis. The St. Louis Medical Association, March 7, 1896, passed the following:

WHEREAS, It is established on a firm basis that tuberculosis is communicable under certain conditions, and that the pulmonary forms are the most prolific sources of external dissemination of the germs of the disease; and

WHEREAS, The health boards of this country and other countries are urgently pressing the legislative authorities to affirm by enactment that pulmonary tuberculosis is transmissible and should be dealt with accordingly; and,

WHEREAS, The State Board of Health of Missouri in a committee report made to this body last year, recognized the infectious nature of this malady; and,

WHEREAS, It is urgent that the public should realize fully the nature of this plague which destroys fully one-sixth of the population, and that the people should be protected from infection;

Resolved, That the president of the St. Louis Medical Society appoint a committee to include some members of the State and city boards of health to draft a measure for the prevention of the dissemination of consumption in the street cars, public schools, churches, theaters and other public places, and to advocate its passage by the city legislators if compatible with the constitution and scheme of charter, and by the State in the near future.

Committee: Drs. Paquin, Bremer, Ravold, Mulhall, Hughes.

Wayne County Medical Society.—The Wayne County (Mich.) Medical Society passed the following resolutions April 23, 1896:

WHEREAS, An organized effort is now being made in the District of Columbia and State of Massachusetts to secure the enactment of laws for the restriction of experiments upon the lower animals; and

WHEREAS, Without such experiments there could be no scientific biology and medicine would have no scientific basis; and

WHEREAS, Our knowledge of physiology and toxicology and the action of many important medicinal agents has been gained in this way; and

WHEREAS, Our precise knowledge of the etiology of a considerable number of infective diseases has been obtained by inoculating susceptible animals with pure cultures of the various pathogenic bacteria, and could have been obtained in no other way; and

WHEREAS, By such experiment the demonstration has been made of the specific pathogenic power of the anthrax bacillus, the tubercle bacillus, the diphtheria bacillus and many others; and

WHEREAS, Many of our life-saving surgical operations have only become possible by experimentation upon the lower animals; and

WHEREAS, It would be impossible in the face of such legislation as is contemplated; be it therefore

Resolved, That the Wayne County Medical Society, of Detroit, Mich., do most earnestly protest against the enactment of such proposed legislation, believing it highly inimical to the advancement of science, and opposed to the best interests of suffering humanity; and be it further

Resolved, That a copy of these resolutions be sent to the Hon. John W. Babcock, of Wisconsin, to the members of Congress at Washington from our State, and also the members of the health committee of the Assembly and Senate of the State of Massachusetts.

MISCELLANY.

The Wonderful Ray.—Apropos of the wonderful penetrating powers of the cathodic ray, a young lady, at a recent dinner party in New York, ventured the remark that she understood that these new cathartic rays could go through anything.

Dr. S. D. Mason, of Brooklyn, N. Y., has resigned from the position of consulting physician at Inebriates' Home, Kings County, N. Y. He has been thirty years consultant in this asylum, and associated with it from its first organization.

An International Periodical, devoted to the history and geography of medicine, is soon to be published in Amsterdam, by Dr. Peypers, Parkweg. The articles will appear in English, French and German. Many scientists have already promised their coöperation, among them several Americans.

Whooping Cough Bacillus.—Kourlov has been investigating the saliva of whooping cough patients, and has found in every case and in them alone, a certain special, spore-forming, ciliated ameba, which he suggests may be the cause of the disease.—*Bulletin Médical.*

Disputed Claim for Priority.—The *Deutsche Med. Wochenschrift* of April 9, is the battle ground of a lively tilt between Gruber of Vienna and Pfeiffer of Berlin, each claiming to have announced first the peculiar behavior of the bacteria of cholera and typhoid fever as they roll up into balls and flakes, in presence of the immunizing serum, and the differential value of this fact.

Honor Medal for an Assistant Surgeon.—President Cleveland has awarded a medal of honor to Jacob F. Raub. He was assistant surgeon in the 210th Pennsylvania Volunteers, and at the battle of Hatcher's Run, Va., Feb. 5, 1865, discovered a flank movement of the Confederate forces, apprised the commanding general at great peril, and, though a non-combatant, voluntarily participated in repelling the attack.

Traumatism and Tuberculosis.—The general discussion as to the contagiousness of tuberculosis has led to the publishing of many cases of tuberculosis following an accident to the lungs in perfectly healthy persons. Some ascribe it to the locus minoris resistentiæ, and others believe it is caused by con-

tagion in the hospitals where the traumatic cases are carried for treatment, while Kelsch asserts that it is due to auto-intoxication from some latent, unsuspected tuberculous lesions, which he states are found in two-thirds of the necropsies of young and old alike, who die from any cause, athrepsia excepted.

Is the Husband's Consent to an Operation Indispensable?—The *St. Petersburg Med. Wochenschrift* of April 4, is devoted to a discussion of the question whether a physician does right to yield to the husband's refusal to consent to an absolutely necessary operation on his wife or child. Russian physicians are collecting data of cases thus sacrificed to the general custom of deferring to the will of the man of the house, on which to found an appeal to the government for an extension of the rights and duties of the attending physician. A case has just been decided in Brussels, bearing upon this point. A couple of prominent surgeons were sued by the husband of a woman who had died after an operation, unauthorized by him, or, as he claims, by his wife. The verdict was in favor of the surgeons. —*Gaz. Méd. de Liège*, April 9.

Contract to Retire from Practice.—A physician and surgeon sold his practice for $250 and stated in the contract that he would withdraw and retire from the practice of his profession at a certain time, adding: "In short, I have decided to permanently withdraw and retire from the practice of medicine in Texarkana and vicinity, and it is my intention to introduce and establish the above-named doctors, W—— and R——, as my successors to my practice and good will among my clientage." This last clause, the supreme court of Arkansas construes, Webster v. Williams, Feb. 22, 1896, in connection with the testimony of several witnesses that the doctor had declared that he had contracted to permanently retire, as a contract for permanent retirement. It also holds that the contract was reasonable and valid, and that the complainants were entitled to a perpetual injunction in accordance therewith.

While the Editor Slept.—The editor of the *General Practitioner* freely acknowledges that he fell into a pit dug for him by a Cincinnati Colleague. He appears to have mistaken Dr. Samuel Johnson, the long deceased lexicographer for some other Dr. Johnson now alive in the Western Reserve. He makes his odd confession thus: "Our article in the January number, reprinted from the *Cincinnati Medical Journal*, on 'Marriage and Celibacy,' turns out to be from the pen of Dr. Samuel Johnson in Rasselas, written so long ago that it might have rested in an Egyptian sarcophagus. We know a good thing when we see it, and we humbly apologize to our readers for not having seen this particular good thing a long time ago. We wondered who it was who wrote Johnsonese in 1895, but we were perfectly innocent, we confess, of ever having read the article."

Scientific Instruments and the Tariff.—The United States circuit court of appeals holds, in the case of United States v. Presbyterian Hospital, decided Jan. 16, 1896, that it does not follow that because articles are made for the use of physicians and surgeons in the practice of their profession that they are scientific instruments within the meaning of the term as used in the tariff law. The court says that the term "scientific instrument" does not describe one appertaining to any particular vocation or profession. It suggests an instrument which is something other than a mere mechanical tool or appliance, however peculiarly adapted to use it may be in scientific labors; one which, because it embodies some scientific conception, would attract the interest of learned minds; something as distinct from the ordinary mechanical instrument as is the scientific toy from ordinary toys. What is or is not such an instrument, in cases arising under the statute, is to be determined as a question of fact, according to the nature of the thing itself, and not necessarily according to the nature of the use for which it is primarily designed or in which it is principally employed. Ordinary metal tubes, a wire mask covered with flannel, and glass tubes for holding wound catgut, imported for use in clinics and training schools the court does not consider attain to the dignity of "scientific instruments."

New Hospitals for St. Louis.—The St. Louis City Council recently passed a bill which provides that the City Comptroller shall set aside 1 per cent. of the taxes each year for the purpose of erecting a new city hospital building. The amount required to build such a structure as is demanded, will be $2,000,000. Hence the above provision, which would yield at most about $75,000, would be inadequate. By private benefaction, a hospital for women may presently be inaugurated, a St. Louis lady having given $100,000 as an endowment fund for an institution to be located on Henrietta street and Grand Avenue, and has also contributed $40,000 in cash, with which to erect the buildings and purchase the grounds. The plans provide for thirty private rooms and all modern conveniences, and all appliances, both medical and surgical. Josephine Hospital (after the given name of the lady endowing the same) will be one of the best equipped and best managed institutions in the city. Dr. F. J. Lutz is chief surgeon, and the buildings are being erected under his supervision.

Proposed Jennerian Society in England.—The *British Medical Journal* states that the friends of vaccination in an antivaccination territory are about to take aggressive and organized action. The existing prevalence of smallpox in Gloucester, besides occurring in a city which is notoriously a center of antivaccinationism, has occurred in a city in which also there are not a few able exponents of the beneficent qualities of vaccination. "Of these latter, one, Dr. Bond, the medical officer of health of the Gloucestershire combination of sanitary areas, has recently issued papers from his own pen with a view of instructing the people in their own interest as to the facts concerning the benefits to be derived from vaccination and revaccination. Not only so, but Dr. Bond has also started a movement under the title of the 'Jenner Society,' for securing a wider dissemination of the literature regarding the prophylactic powers of vaccination, so that persons who at present know only the onesided arguments of antivaccination agitators may be in possession of the abounding evidence in favor of vaccination. There are other proposed lines of action to be taken by the society, not alone in Gloucestershire, but as widely as its membership shall extend; these, however, we do not touch upon here. Suffice it for the moment to state that any movement which has for its main object the dissemination of terse, simple and well-digested data and facts showing the benificent results accruing from vaccination will be sure to confer an important service on the nation."

Privileged Observations of Physicians.—In a bastardy case it was proposed to prove by a physician that the mother had called on him in his office, accompanied by a young man of a particular description, which distinguished the latter from the one sued, and that the two said they were husband and wife, and wanted an examination made to see if she was with child. All of this, relating to matters which the physician had learned while the woman had called upon him in his professional capacity, the appellate court of Indiana holds, Post v. State, Feb. 21, 1896, was privileged. Not only was the physician prevented from revealing anything told him by the woman, but it would be equally objectionable, the court says, for him to divulge matters he had learned from mere observation. What he observed as to who accompanied the woman and what they said, must have been in reference to the subject-matter of the examination—the purpose for which they had called upon the physician—and was therefore privileged. The court also holds that there was no error in a refusal to allow another physician to testify that the child was perfectly developed, declaring that this information was also clearly privileged.

Antitoxin Treatment of Pseudo-Membranous Angina.—Dr. George Blumer reports in the *Bulletin* of the Johns Hopkins Hospital a series of eighteen cases of angina with generally successful results under the serum treatment. One of his cases is interesting from a bacteriologic point of view, for, so far as we have been able to make out, a membranous angina due to the bacillus pyocyaneus has not been described hitherto. This organism, though usually comparatively harmless, has been described as a factor in various diseased conditions, usually in association with other organs; in our case it was apparently in pure culture, but this may be due to the fact that it had overgrown the organisms with which it was associated.

The comparatively frequent presence of the pyocyaneus in chronic otitis media would lead one to suspect that it may not be an infrequent inhabitant of the nasal or buccal cavities. "Of the eighteen cases above recorded, sixteen received the antitoxin treatment, three of these cases being non-diphtheritic. While this of course is too small a number of cases on which to base any statistical conclusions, several facts in connection with the treatment seem worthy of attention. Two of the cases died, but both of these were moribund on admission, one dying three and the other eight hours after admission, so that the antitoxin was given no chance. The other thirteen diphtheria cases were most of them mild, in fact none were very severe, but both on the general condition and on the temperature the antitoxin seemed to have a marked effect. It was almost invariably noticed that the day following the injection the patient was much brighter, and in the case of children the return of the appetite was the most marked indication of improvement. In looking over the cases it will be noted that in those due to the bacillus diphtheriæ the antitoxin, as a rule, caused a reduction of the temperature to the normal inside of twenty-four hours; in one or two of the cases there was a slight rise in the temperature eighteen to twenty hours after the inoculation, but in only one case was no effect on the temperature noted. The last two cases afford excellent examples of the effect of the antitoxin on non-diphtheritic cases; both were early cases, so that a spontaneous fall of temperature can be excluded, and in both the temperature was not influenced in the slightest degree by the antitoxin. Skin eruptions following the antitoxin injections were noted in several of our cases; they have been noted by various observers since the inauguration of the treatment, but not enough stress has been laid on the fact that these eruptions are in all probability due to the serum *per se*, and not to the antitoxic agents contained therein." The deleterious effects of the serum of one species of animal when injected into a member of another species are too well known to be repeated here, but it is interesting to know that Sevestre, by injecting horse-serum in 20 centimeter doses into children with non-diphtheritic sore throats, was able to produce urticaria and other forms of skin eruption similar to those observed after the use of the antitoxin. "The skin eruptions were the only bad effects, if one could so call them, which were observed after the use of the antitoxin. No other appreciable symptoms plainly due to the injection could be observed, nor did the examination of the urine give evidence of any such."

Suits for Malpractice on the Pacific Slope.—Dr. James J. McKone of Tacoma, addressed the Washington State Medical Society on the subject of the aseptic treatment of injuries, especially of compound comminuted fractures. He warned his hearers that the modern doctrines of the text-books on surgery have placed some dangerous weapons in the hands of the damage-suit lawyers, who appear to now frequent the far West. As formerly in the East, so now in the West, surgeons are the game for which the lawyers go a-hunting.

A generation ago, the majority of these actions were brought on account of deformity resulting from fractures and dislocations. "The laity, believing that every broken limb should recover perfectly, no allowance being given for the severity of the injury. To them a fracture is a fracture, be it a compound, comminuted fracture of the femur, or a simple fracture of the fibula. A surgeon having the skill to save a badly mangled limb, that we as medical men know requires more ability than the average capital operation which contributes so much to the surgeon's reputation, is doomed forever to be pointed out by the patient and his friends as a careless and incompetent man, should necrosis or shortening follow the almost miraculous saving of a compound, comminuted fracture of the femur.

"Samuel D. Gross once said that compound fractures caused him more anxiety than all the rest of his surgery combined. Suits for malpractice in New England, once so frequent, are now almost unknown, because damages against medical men were very seldom awarded. One reason being that eminent men from Boston, New York and Philadelphia were always ready to respond to the call of a brother physician in trouble and testify to the truth; this, coupled with the fact that the supreme court had decided that the plaintiff in a suit for malpractice must show the defendant guilty, either of ignorance or gross negligence, a very hard thing to prove. But in these Western towns no man on earth can tell what a jury will do; and with every unsuccessful applicant for the police force, a lawyer, and with the supreme court, famous for reversing the decision of the lower court, and then reversing its own decisions, the profession must be watchful."

Dr. McKone gives the following as an instance of some of the traps that are laid in the path of the surgeon:

"I operated some months since on a patient for appendicitis, and he took me severely to task because there was a stitch-hole abscess. He said it was all 'damned carelessness' in the preparation, and that a physician had told him three months before that there was no need of pus ever forming in a wound made by a careful surgeon.

"I trust, gentlemen, that these remarks may not be wasted, and that though we may always use the utmost precaution to be perfectly aseptic in every surgical procedure, still we must not give our patients lectures on bacteriology and have them expect what they will not always get."

A Mexican Treatment of the Bite of the Gila.—A correspondent in California to the New York *Sun* writes regarding the bite of the so-called gila monster:

The death of three persons, one a naturalist from Chicago University, in Arizona in the last few weeks from the bite of the gila monster, has renewed discussion in this region concerning the terrible venomous nature of the reptile. Without doubt the gila monster of the alkali plains and the hot, dry mountain canyons of Arizona and the State of Sonora in Mexico, is the deadliest venomous creature known to the natural history of North America. Physicians say that the poison sets up a tremendous action of the heart, and the victim really dies of heart failure. The person who has been drinking to excess a few days or a few hours before he is injured by the gila monster is almost sure of death in half an hour after the bite. Many physicians in the Territory say that alcoholic stimulants are worse than useless for a person hurt by the reptile, but Walter H. Vail says he owes his recovery to a prompt use of whisky and the application of ammonia. Dr. E. G. Harper, who has been among the Huilipi Indians in Mexico for several years, in the interest of science, says the savages there certainly have a decoction that is a cure, if administered immediately, for the bite of the gila monster found in that region. 'I have tried to learn from the Mexican Huilpis this anti-venom decoction,' said Dr. Harper recently, 'but it was useless. President Diaz says, however, that it can be had, and he will interest himself to get it for the benefit of the people of the United States, where a death from gila monster bite happens once in a while. The most wonderful feat I ever saw was down on the edge of the desert wastes in southern Sonora several years ago. It was a test of the power of the anti-venom preparation of the Huilipis. The chief medicine man claimed that he was a wizard, too, and that the great spirit Moz-no-ha, who dwelt on the peak of Orizaba, came down and helped him defy death from the most deadly poisons known among the Indians. At the time of the test I witnessed, the medicine man summoned a dozen of his young assistants around a cauldron, which was steaming and boiling with roots, leaves, horned toads, rattlesnake heads, and a score of other kinds of articles. I was told that this was the anti-poison medicine. In an hour the stuff was cool and ready for use. The medicine man bounded into the arena

with a 'ho-ho,' brandishing over his head two gila monsters. Then he varied the program by twirling them around his body and permitting them to crawl all over him. He teased the reptiles, poked his thumb into their mouths, and even put them up to his face. I am sure the man was bitten several times. We looked upon this daring feat with horror, while the Indians viewed it with superstitious frenzy, and showered upon the medicine chief all the presents they could command.'"

Murderous Malpractice by a Midwife.—The following narrative is compiled from the sworn statements of the husband mentioned, the physician who was called in to the moribund woman, the physician subsequently employed by the husband and the medical inspector of the Chicago Health Department:

On Wednesday, March 25, 1896, the husband of A. L., living at 31 Jane Street, Chicago, sent for Mrs. Susanna Hora, midwife, 663 Milwaukee Avenue, to attend his wife during confinement. The midwife endeavored to "get the child" until 10:30 P. M. without success and then left the house saying she would get some medicine and return. She returned with a package containing obstetric forceps and, after administering medicine to the patient, proceeded to apply the instrument. After three-quarters of an hour's continuous effort to extract the child she discarded the forceps and an hour later the child was born dead. Before the child was born the husband asked her if she needed the assistance of a physician, to which she replied that she was a doctor herself and that everything was all right except that the child "was a little high up." After the child was born she washed and douched the patient and, in reply to an inquiry, stated that everything was all right, but it would take longer than in other cases for the recovery of the patient and then departed. When the midwife returned next morning she was informed that the patient began vomiting soon after confinement and was unable to obtain sleep, to which she replied, "It is good that she vomits." Thursday evening the midwife gave the patient some pills with directions to administer throughout the night. Friday the patient grew decidedly worse and in the evening a physician was called in and found the patient in a state of collapse, pulse barely perceptible, temperature 101 degrees, cold sweat and a Hippocratic countenance. Digital examination being painful he was only able to detect a lacerated cervix and desisted from further procedure in anticipation of her death, which occurred shortly after his visit. the midwife in the meantime had demanded the remaining pills, and these not being forthcoming she urged that they be destroyed when found. When the physician was advised of the death of the patient he issued a certificate of death from puerperal fever, but subsequently notified the coroner. The husband refused to allow a post-mortem and the coroner dismissed the case, the body being taken to the Bohemian cemetery for interment. Meanwhile the Health Department having incidentally learned something of the facts, instituted an investigation which led to a post-mortem by Medical Inspector, Dr. Clausen, and Dr. Nahinsky, the latter being employed by the husband. Examination revealed the following conditions:

External appearances: Rigor mortis well marked. Beginning decomposition most marked over lower abdomen and thighs; dark bluish discoloration over both groins and vulva, also of mucous membrane of vagina and perineum. A perforation about one-fourth of an inch in length about four inches from the navel and on the level of same on both sides, presumably made by embalmer's trocar. No pelvic deformities to be detected and no laceration of perineum.

Intra-abdominal examination: Intestines perforated (obviously by trocar) in various places, two of which perforations were located at junction of sigmoid flexure and the rectum and were about one-eighth of an inch in length. Marked pathologic changes in the peritoneum found in the pelvic floor behind the uterus. In the cul-de-sac of Douglas a laceration with ragged torn edges was found communicating with the vagina, which readily admitted four fingers. The peritoneum in this vicinity was darker in color and infiltrated, likewise the edges of the laceration. The mucous membrane of posterior and upper wall of vagina and the cervix were lacerated. The uterus was intact and enlarged. Its cavity contained some fragments of placenta and a small quantity of dark clotted blood. Bladder empty and normal and ovaries and tubes normal. Other abdominal organs apparently normal. The infant, well developed and large, presented a dark, discolored swelling above and behind each ear and a linear depression about one and one-half inch on each side of neck, parallel to the upper posterior border of the sterno-cleido-mastoid muscle.

As a result of these disclosures information was lodged with the attorney of the State Board of Health, and the husband retained an attorney to prosecute the midwife in a civil action for damages. These proceedings were cut short by the midwife committing suicide by carbolic acid poisoning, April 11. During the investigation it was alleged by various persons that she had caused the death of a number of other unfortunate parturients, two or three within a short time of this case. According to the official register, Susanna Hora had been in practice as a midwife in Chicago some fifteen years, her State certificate having been issued Nov. 1, 1881, on alleged credentials from the University of Buda-Pesth, dated July 3, 1875.

In laying the above facts before the State Board of Health, Dr. Reilly, Acting Commissioner of Health, took occasion to say: "While this case has some unusual features it does not by any means cover all the horrible details of the unrestricted practice of many midwives, the criminal abortions performed by them, their numerous infanticides and frequent butcheries. A recent well-authenticated instance of such butcheries is that of a midwife who amputated an inverted womb after labor for a tumor, and in which operation she was "assisted" by a physician holding a State certificate. The prosecution was a failure, because in the absence of the amputated structure it was impossible to prove the non-existence of a tumor. In fact, prosecution in these cases is rarely successful. There are now three licensed midwives in this city under indictments of long standing and concerning whose guilt there is no shadow of doubt. They are still plying their nefarious vocations unrestricted, except in so far as this department refuses to recognize their certificates of causes of death. This, however, gives them little or no concern, since they can readily obtain a certificate from a recognized physician for a small fee."

The action of the State Board is told in the editorial, "A Much-Needed Reform Begun."

Practical Notes.

Subconjunctival Injections of Quinin.—Proceeding on the basis of the action of quinin on the leucocytes in the blood, Bossalino, of Turin, has been injecting bichlorid of quinin, 1 to 400, in twenty cases of ulcers and abscesses of the cornea, complicated with hypopyon and even iritis in some cases. The injections were only slightly painful, and they produced a cure in ten to twenty days, while the leucoma afterward was much more transparent than usual.—*Gazetta degli Osp. e delle Clin.*, April 4.

Thyroid Treatment of Obesity.—Maragliano confirms the results of the treatment of obesity with thyroid tabloids, and states that he has also found them efficacious in a case of scleroderma. He does not attribute this efficacy to the iodin in them, as he has often treated obesity with preparations of iodin, and the results are almost nil, unless the diet is materially modified, which is not necessary with the thyroid treatment a most important point in its favor.—*Gazzetta degli Osp. e delle Clin.*, April 4.

Hemorrhoids and Enlarged Prostate Relieved by Double Castration.—Dr. John Homans, at the Massachusetts General Hospital, had occasion to treat a man of 64 years for retention of urine due to enlarging prostate, the symptoms of which began to be noticed about four years ago. Double castration was performed and six days later urine was passed voluntarily; four days after that the use of the catheter was permanently discontinued. Twenty days after operation the man was again actively engaged in business, and was able to report that the operation appeared to have entirely cured his piles from which he had formerly been a great sufferer.

Typhoid Treated Exclusively with Phenacetin.—Bignami reports his success with this treatment in his private practice, in the *Gaz. degli Osp. e delle Clin.*, March 21. He had only six fatalities, which were mostly due to unhygienic surroundings. It produced a profuse diaphoresis in every case, to which he ascribes its beneficial action. Queirolo has shown also that phenacetin has a neutralizing effect on the typhoid poison in the blood, and the cases above demonstrated that it has a direct abortive effect on ileo-typhoid especially. Bignami administered 3 grams in six doses at intervals of four hours, for a week, reducing the dose to 2 or 1.5 grams with children

or elderly people. After the first week he continued with ½ to ¼ gram every six hours, as long as the temperature was above normal. There were no inconveniences from its use, neither vomiting, hematuria, collapse or kidney troubles, only in a few cases a slight transient cyanosis.

Treatment of Anal Fissures with Cocain and Ichthyol.—Surgical treatment is often accepted as indicated in these cases, but it would be seldom required if the fissure were first treated with cocain at 1 per cent. for five minutes and then cauterized with one or two drops of ichthyol. A recent fissure can be entirely cured with ten of these simple treatments, while an old one requires more, perhaps twenty, and must be treated its entire length, dilating the sphincter with a Nelaton dilator.—Cheron in the *Rev. des Mal. des Femmes*. Quoted in April *Union Méd. du Canada*.

The Revolution in Obstetric Treatment is becoming more evident every day, as asepsis is gradually displacing antisepsis. Vaginal douches were discarded first; and Leopold and Spoerlin have inaugurated an entire new method to determine the position and presentation of the fetus by abdominal palpation alone. In 1,000 cases thus treated the diagnosis was at fault in only 6.5 per cent. Kroenig and Ries substitute rectal for vaginal examination, and Strassmann has devised a series of external manipulations, under chloroform, which will do away with the forceps in many cases, and is, he claims, the method *de rigeur* when the fetus is dead. Remarkably favorable are the results of this entire avoidance of the vagina, which is left intact to its own secretions in all normal cases. Mermann reports no fatalities in 1,200 cases thus treated, and all normal but 5.7 per cent.; Leopold reports 1,382 cases with a mortality of .07 per cent. and morbidity in .65 per cent.; Ferratta had a mortality of .05 per cent. in 800 cases.—From an article in the *Union Médicale du Canada*, April.

To Ward Off Malaria.—Laveran announces as the results of his investigations, that the preventive dose of quinin is 0.20 to 0.30 gram every day, or twice this amount every other day. This is a larger dose than is usually given, but it has been found that it produces no deleterious effects on the digestive organs, even taken for months at a time, and actually acts as a tonic, stimulating the appetite and improving the general health if taken at meal times. It absolutely prevents severe fever attacks, and is almost certain to ward it off entirely. By its bacteric action it kills the hematozoa or at least transforms the blood into an unfavorable medium for its development. Laborde recommends the hydrochlorid, or better still, the hydrochlorosulphate of quinin, and in violent attacks it is better; but as a preventive Laveran considers the ordinary sulphate equally as good and it is less expensive. Laveran mentions the curious fact that it is impossible to experiment on animals in regard to the effect of malarial poisons as they are unaffected by it. (See this JOURNAL, pages 493 and 690, March 7 and April 4.)

Iodism.—The *Semaine Médicale*, April 8, contains a detailed study of the toxic effects of iodin on the system, with a review of the cases of iodism on record, which shows that few organs are exempt from possible disorders following its use. None of the iodids are free from possible deleterious effects. The table below shows the percentage of iodism in one to four hundred cases observed:

	None.	Slight.	Moderate.	Severe.
Pot. Iodid	23	38	23	16
Sodium Iodid	34	41	15	10
Ammon. Iodid	22	32	34	11
Str. Iodid	22	34	28	16

Only 25 per cent. of the cases are free from complication but it is not severe except in 10 to 15 per cent. and in some of these the system becomes accustomed to it in time. The most frequent and serious consequences are coryza, eruptions, renal and nervous troubles. There are no means of determining its effects beforehand, as they seem to depend upon some idiosyncrasy, impossible to foresee except perhaps in renal troubles. It is also established that the tendency to produce iodism, and the severity of the attack, is directly dependent upon the size of the dose. There is no preventive medication possible, except administering the iodin in very small doses to begin with (50 centigrams). Belladonna for severe coryza, and bicarbonate of soda in severe cases of iodism, are the only remedies that have proved beneficial.

Subcutaneous Injections of Mercury in Syphilis.—The *Annales de Derm. et de Syphil.* for March, devotes fifty-four pages to a symposium of reports on the treatment of syphilis with injections of mercury. The forms used were: Calomel (Fournier, Portalier, Barthélemy and others); bichlorid or cyanid of mercury (Abadie); olive oil and mercuric iodid (Lavarenne); gray oil (Hallopeau). The reports embrace a large number of cases, and the efficacy of this treatment seems to be established beyond a doubt, but its disadvantages (pain, occasional abscesses at the injecting point, and rare cases of serious distress) are such that nearly all agree that its use should be restricted to severe, urgent cases, which are often cured as if by magic. Relapses are liable to occur, unless preventive injections are made from time to time. Hallopeau denounces the use of cocain with them. The injections are all made in the buttocks. Barthélemy advises a weekly injection of calomel during the whole time that the blood is contagious. It has been the experience of several that patients much prefer this treatment to pills or local friction, etc. Lavarenne has treated tabes successfully and reports one absolute cure, and the arrest of another quite advanced case to such an extent that, during the four years of the treatment, the patient has not been obliged to interrupt his business a single day. Fournier considers the specific indication for its use the lingual syphilitic lesions, which he has seen swept away almost instantly by injections of calomel. His formula is: Calomel, 5 centigrams; pure cocain, 1 centigram; olive oil, q. s. to make 1 c.c. Applied with a Feulard syringe. Scarenzio mixes oil of vaselin with his calomel. Abadie's formula is: Mercuric cyanid, 50 centigrams; cocain hydrochlorate, 50 centigrams; distilled water, 50 centigrams.

Syphilitic Chancre on the Chin.—The leading article in the *Bulletin Médical*, March 29, urges the extreme importance of differentiating at once the signs of extra-genital syphilitic lesions, acquired accidentally, so that they can be treated promptly, and covered close with some plaster which will prevent the further infection of the subject and also the infection of those around him. The writer recommends Vidal's red minium and cinnabar plaster, as less irritating than Vigo's, first washing the surface with Van Swieten's solution, with other measures as necessary. The barber shop is the most frequent means of contagion by the razor or brush, which is disinfected even less than the razor. The infection may occur on leaving the shop through some scratch or pimple. Chambermaids and other attendants on persons with syphilitic lesions are very liable to acquire these chancres on the face, which are most frequently misunderstood at first, and the infection allowed to spread in a most dangerous manner.

Rupture of Spleen; Three Splenectomies with Recoveries.—The London medical periodicals have given considerable prominence to the discussion before the Clinical Society, of that city, of three cases of operation by Mr. Pitts and Mr. Ballance at the St. Thomas Hospital, done for rupture of the spleen. One case was that of a man, aged 36 years, admitted to hospital in the early morning of October 12 last, under the care of Mr. Pitts. He had fallen from a height of seven feet on to an iron girder, striking his left side. He complained of pain over that side and was slightly blanched, but otherwise apparently well. At 11 A.M. his condition became suddenly worse; he was deathly pale and almost pulseless, the extremities were cold

and the respiration quick. Both flanks were dull, but the dullness on the left side could not be wholly got rid of by change of position, and the man complained of great pain in the abdomen and said he thought he was dying. Restoratives were employed, and by 3 P.M. he had rallied sufficiently to make operation a reasonable thing to attempt. In the meantime it had been observed that the quantity of fluid in the abdomen had greatly increased. On making the median incision an enormous quantity of blood gushed out, the peritoneal cavity being literally distended to its utmost capacity. When the spleen was brought into view it was found to be ruptured completely across, the vessels in the hilum being also torn. The cleansing of the peritoneum from blood and clot took some time, and the wounds were closed in the usual way. The patient gradually rallied and at the end of a fortnight he appeared in every way as if completely convalescent. He then commenced to lose ground without manifest cause and soon presented the appearance of extreme anemia. His aspect was withered and sallow; he lost three stone in weight and became extremely feeble. There was a daily rise of temperature and the pulse was rapid. He also had fainting attacks, headache, great thirst, severe pains in the abdomen, and passed an excessive quantity of urine. The red blood discs numbered 2,500,000 and the white corpuscles 17,000 per cubic millimeter. It was determined to treat this patient on general principles. He was given cod-liver oil and bone marrow, but it was not until arsenic was administered that any real improvement was observed. In about two months the number of red and white corpuscles in the blood became normal. He gradually regained weight and at the present time was in robust health and following his occupation as a laborer, but all the external lymphatic glands could be felt to be definitely enlarged.

The second case was that of a lad, aged 10 years, under the care of Mr. Ballance. When admitted, September 11, the patient was in collapse and evidently suffering from severe shock. He was pale and the skin was clammy, respiration hurried and diaphragmatic. The abdomen was held rigidly during respiration and was acutely tender to palpation, especially in the splenic and iliac regions. Dullness in both flanks, that in the left flank varying with position. After oscillating a good deal, operative interference became imperative, so the abdomen was opened below the umbilicus. On opening the peritoneum, much liquid blood poured out and an incision was made in the upper part of the linea semilunaris. Blood and clots welled up, and on examining the spleen it was found to be ruptured. A ligature was therefore applied and the organ removed, a lienculus being found and left in. The lad made a good recovery and left the hospital on October 4. The injury was caused by a blow with a cricket ball five days before admission, so that his condition on admission was due to secondary hemorrhage from the spleen.

The third case was a woman, aged 45, who was admitted September 15, having been run over by a cab. She was extremely collapsed, and complained of intense pain in the left side. A catheter was passed and a little blood and urine was withdrawn. The abdomen was opened in the middle line when much bloody fluid escaped. Another incision was then made in the upper part of the left linea semilunaris, and the spleen was found to be transversely ruptured. It was removed, the pedicle being tied with silk. About a fortnight after the operation her condition grew worse, the temperature rose to 102 every day, the pulse was rapid and her general condition was one of extreme feebleness. There was a diminution of red cells in the blood and an increase of leucocytes. This state continued for about a fortnight, when she was put on extract of spleen and raw marrow. From this date she gradually improved, and by November 19 she was able to walk down stairs without assistance.

The first of the above cases, that of Mr. Pitts, is condensed from the report in the London *Lancet*; the other two cases, both of which were under the care of Mr. Ballance, are quoted from the *Medical Press and Circular*.

Mr. Pitts further stated that the number of cases of ruptured spleen he had seen post-mortem after removal was very small compared with the number of fatal cases in which death had taken place as a consequence of the hemorrhage. They had laid stress upon the fact that the spleen ought not to be lightly removed. Their experience of the removal of the wandering spleen has been that no special symptoms followed the operation. In Case 3 the patient was practically moribund, and the abdomen was as full of blood as it could be. When practicable he would prefer suture of the tear to the actual cautery. The latter, moreover, necessitated pulling the spleen out of the abdomen, and he did not think it would be a scientific or a satisfactory procedure. He promised that they would do their best to obtain the subsequent histories of these patients.

Detroit.

THE DETROIT MEDICAL AND LIBRARY ASSOCIATION had its usual weekly meeting Monday, April 20, at which several important matters were brought up.

THE WAYNE COUNTY MEDICAL SOCIETY met at the office of Dr. Kenneth Gunsolus, Thursday, April 23. Dr. Frank S. Hough read a voluntary paper on "Counter Irritants," which was discussed by a number of the members. After the literary feast of the evening, Dr. and Mrs. Gunsolus invited the members of the society present, about seventy, to repair to the dining room where a banquet was served. Music made the remaining part of the evening pleasant.

HEALTH OFFICE REPORT for week ending April 25: Deaths under 5 years 34, total 79; births, male 40, female 43, total 83. Contagious diseases: Diphtheria, last report 3, new cases 2, recovered 2, died none, now sick 3; scarlet fever, last report 21, new cases 9, recovered 5, died 1, now sick 24; smallpox, none; measles, last report 1, new cases 3, recovered 2, died none, now sick 2.

Louisville.

LICENSE.—The common council recently passed a license law which reads as follows: "Each practicing attorney or counselor at law, physician, dentist, surgeon, architect, civil engineer, chiropodist, veterinary surgeon or dentist shall pay a license as follows: One whose yearly business amounts to less than $2,000, shall pay an annual license of $10; one whose yearly business amounts to $2,000 or over, and less than $5,000, shall pay an annual license of $20; one whose annual business amounts to $5,000 or over and less than $10,000, shall pay an annual license of $40; one whose yearly business amounts to $10,000 or over shall pay an annual license of $100. Should any of the foregoing parties be associated in a firm, each member of the firm shall pay a separate license." A member from each of the various medical societies in the city has been appointed to confer together and employ counsel to test the legality of such a law in the courts, their claim being that it is a counterpart of the income tax which was declared unconstitutional by the supreme court of the United States.

Philadelphia.

A PROPOSED SEMI-CENTENNIAL CELEBRATION OF THE AMERICAN MEDICAL ASSOCIATION.—At the meeting of the Philadelphia County Medical Society held April 15, the following resolutions were unanimously adopted:

WHEREAS, The AMERICAN MEDICAL ASSOCIATION completed its organization and commenced its actual existence in the city of Philadelphia during the first week of May, 1847; therefore be it

Resolved, That a committee of three be appointed by the Chair to publicly urge that the ASSOCIATION celebrate in 1897 its fiftieth annual meeting with ceremonies appropriate to its long and successful career; and be it

Resolved, That the delegates of the Philadelphia County Medical Society to the meeting of the AMERICAN MEDICAL ASSOCIATION at Atlanta be instructed to extend the ASSOCIATION a cordial invitation to hold its semi-centennial meeting in Philadelphia, the city of its birth.

The President accordingly appointed Drs. John B. Roberts, James C. Wilson and William M. Welch to act upon this committee.

AUGUST WEATHER IN APRIL.—According to the meteorologic records, which have been regularly kept at the Pennsylvania Hospital since 1824, the week ending April 18 gave the highest temperature record for the past seventy-two years. The thermometer standing in the garden of the hospital indicated 92.5

degrees, while that of the United States Weather Bureau on the top floor of the postoffice here marked 93 degrees at 4 P.M. The highest recorded observation of high temperature in April, in this city, previous to the above, was in 1888, when it got up to 90, surpassing by one degree the highest previous April temperature, which occurred in 1830. The sudden onset of summer weather with its accompaniment of heat prostrations and insolations, caught the hospitals by surprise, and the usual method of erecting tents under the shade of the trees for treating such cases could not be carried out because the leafbuds only burst within the last fortnight and the leaves are as yet too small to give any protection from the sun's rays. Of the score or more of cases which were taken to the hospitals the larger proportion were cases of heat exhaustion, but several cases of insolation were reported at the coroner's office.

SUDDEN DEATH OF THE CORONER'S PHYSICIAN.—On the 16th ult. Dr. Wm. K. Mattern, physician to the coroner's office, was suddenly seized with severe pain in his chest and shortly afterward expired. He seemed in his usual health early in the day and made a post mortem examination a few hours before his death. He had recently performed an autopsy upon the body of a woman, who had died from septic poisoning, and had spoken of being overworked and an assistant had been promised him. A post mortem revealed pyemic abscesses in the kidneys and liver, and rupture of a pulmonary artery, the result of sepsis. It is strange that, with such marked lesions, he had not experienced more disability. The predecessor of Dr. Mattern, Dr. Robert H. Taylor, likewise lost his life from blood poisoning contracted in the performance of his duties. It is believed that Dr. Formad's death, a few years ago, may also have had a similar explanation, as he died after a few days' illness, of acute pneumonia.

THE RÖNTGEN RAYS.—The X rays and skiagraphy are becoming of daily utility in surgery in locating foreign bodies and in determining the relative position of fractured bones after all the dressings have been applied. Last week a patient of Dr. T. G. Morton, suffering with metatarsalgia, had her feet skiagraphed by Professor Goodspeed, and a negative was obtained by an exposure of twenty-three seconds, which afforded a clear photographic print of the bones of the foot, clearly demonstrating the distortion of the bones of the phalanges and the pinching of tissues between the base of the first phalanx of the little toe and the head of the adjoining metatarsal bone. The picture fully sustained the views of Dr. Morton as to the pathology of this peculiar form of neuralgia and illustrated, even better than a diagram, the method of relief to be obtained through operation.

THE MEDICO-CHIRURGICAL COLLEGE is making extensive improvements and has begun work upon a large clinical amphitheater adjoining the hospital, which is estimated to cost $180,000 and will be ready for the next session.

GUAIACOL IN TYPHOID FEVER.—Dr. H. G. McCormick, of Williamsport, by invitation, read a paper before the Philadelphia County Medical Society on the therapeutic uses of guaiacol. He presented a number of clinical charts illustrating the prompt antithermic effect produced by painting 20 to 30 drops of guaiacol upon the surface of the abdomen. He had used it in 77 cases making 850 applications, without any accident or serious depression resulting from its use. He extolled its use in typhoid fever, preferring this to the cold bath treatment, which he considered impracticable in private practice. Out of 56 cases of typhoid fever treated by guaiacol, externally and internally, 55 recovered; the fatal case entered the hospital late in the second week and died of perforation two days after admission. From his own experience he considered guaiacol used internally as a disinfectant of the alimentary canal and externally as an antipyretic, as the best treatment of the disease.

ANTITOXIN TO BE DISTRIBUTED FREE.—The Bacteriologic Laboratory of the City Board of Health under the efficient management of Dr. Bolton, has been manufacturing diphtheria antitoxic serum for use in the Municipal Hospital. There being a sufficient supply on hand to warrant its distribution to the poor, the Board of Health has publicly offered to supply the antitoxin and has appointed a physician to administer it for other physicians in appropriate cases. It is also stated that the services of the Philadelphia Bacteriologic Laboratory will hereafter not be confined to this city, but examinations in cases of suspected diphtheria, will be made and culture tubes sent by mail to any part of the State of Pennsylvania, without charge.

DR. ERNEST B. SANGREE has been elected to the Chair of Pathology and Bacteriology in the Vanderbilt University at Nashville, Tenn.

THE PUBLIC SERVICES.

Army Changes. Official List of changes in the stations and duties of officers serving in the Medical Department, U. S. Army, from April 18 to 25, 1896.

Capt. Ashton B. Heyl, Asst. Surgeon, is relieved from duty at Ft. Thomas, Ky., and ordered to Ft. Canby, Washington, for duty.

First Lieut. Henry A. Shaw, Asst. Surgeon (Ft. Snelling, Minn.), is granted leave of absence for one month, to take effect about May 2, 1896.

Navy Changes. Changes in the Medical Corps of the U. S. Navy for the week ending April 25, 1896.

Asst. Surgeon H. La Motte, detached from the "Franklin" and granted four months' sick leave.

Asst. Surgeon M. K. Johnson, detached from the Naval Laboratory and Department of Instruction and ordered to the "Franklin."

Change of Address.

Armstrong, S. T., from Asbury Park to 71 Maiden Lane, New Rochelle, N. Y.
Eaton, Roy R., from Chicago, Ill., to Lowell, Mich.
Furay, Chas. E., from St. Joseph's Hospital to Rooms 210-11, Brown Block, Omaha, Neb.
Greely, G. H., from Hillsboro to Thornton's Ferry, N. H.
Kent, Jas. L., from Bertha to Dublin, Va.
Kelley, Warren, from Little Rock to Carlisle, Ark.
Luebbers, Alfred, from St. Louis, Mo., to 256 N. Pearl St., Dallas, Texas.
Lersche, E. P., from 192 S. Robey St. to 877 Spaulding Av., Chicago.
Murray, R. D., from Key West, Fla., to Marine Hospital, Mobile, Ala.
Norris, M. D., from Catonsville to Sykesville, Md.
Nance, Willis O., from 119 Garfield Boul., to "Suite 803 Venetian Bld."; residence 5466 Monroe Av., Chicago, Ill.
Randall, F., from 60 Liberty St. to 72 William St., New York, N. Y.
Waters, L. C., from 669 W. Monroe St. to 468 W. Monroe St., Chicago.

LETTERS RECEIVED.

Allport, Frank (2), Minneapolis, Minn.; Atkinson, W. B. Philadelphia, Pa.; American Publishers' Collection Co., New York, N. Y.; Ammonol Chemical Co., The, New York, N. Y.
Bausch & Lomb Optical Co., Rochester, N. Y., Burr, C. B., Flint, Mich.; Battle Creek Sanitarium, Battle Creek, Mich.; Baltimore Medical College, Baltimore, Md.; Bonwill, W. G. A., Philadelphia, Pa.; Boehringer, C. F., & Soehne, New York, N. Y.; Bittman, Geo. W. (2), St. Louis, Mo.
Cotton, A. C., Chicago, Ill.; Craig, S., Alamosa, Colo.; Carlin, P. V., Denver, Colo.; Chicago Edison Company, Chicago, Ill.; Chambers, J. H. & Co., St. Louis, Mo.; Columbus Phaeton Co., Columbus, Ohio.
Duplex Saddle Company (2), Chicago, Ill.
Emmert, J. M., Atlantic, Iowa.
French, Pinckney, St. Louis, Mo.; Ferguson, M. B., Winnipeg, Manitoba; Fairchild, D. S., Clinton, Iowa; Frazille, C. H., Rockford, Iowa.
Grosvenor, J. M., Boston, Mass.
Hay, Thomas, Philadelphia, Pa.; Haldenstein, I., New York, N. Y.; Hicks, C., Carborns, Ind.; Herrick, S. S., San Francisco, Cal.; Hill, N. S. (Mrs.), Neville, Ohio; Hotz, Wm., Chicago, Ill.; Halderman, S. S., Portsmouth, Ohio; Hall, Geo., Baileyville, Kans.; Hall, John R., Marshall, Mo.
Imperial Granum Co., New Haven, Conn.
Katharmon Chemical Co., St. Louis, Mo.
Ludwig, Henry C., New York, N. Y.; Londonderry Lithia Spring Water Co., Nashua, N. H.; Lowry, G. W., Hastings, Mich.; Lundholm, E. M., St. Paul, Minn.; Love, I. N., St. Louis, Mo.; Lord & Thomas, Chicago, Ill.; Limmer, Geo. L., Peoria, Ill.
Merrick, M. B., Passaic, N. J.; Moe, J. H., Sturgis, Mich.; Mumaw, H. A. (3), Elkhart, Ind.; Morris, John, Baltimore, Md.; Moss, T. R., Dyersburg, Tenn.
Paquin, Paul, St. Louis, Mo.
Reed, C. A. L., Cincinnati, Ohio; Roach, Joseph, Baltimore, Md.; Ross, A. A., Hochheim, Texas; Rohr, J. H. Kneeland, Wis.; Rowell, Geo. P. & Co., New York, N. Y.; Ruth, C. E., Keokuk, Iowa; Rodi, C. H. Calumet, Mich.
Schieffelin & Co. (2), New York, N. Y.; Snedden, E. M., New York, N. Y.; Smith, E. R., Toledo, Iowa; Smith, J. D., Paducah, Ky.; Sutherland, J. L., Grand Island, Neb.; Stover, G. H., Eaton, Colo.; Sims, S. N., Danville, Ill.; Strueh, Carl, Chicago, Ill.; Schering & Glatz, New York, N. Y.; Scheppegrell, W., New Orleans, La.; Stewart, F. E., Detroit, Mich.
Watson, Irving A., Buffalo, N. Y.; Wingate, U. O. B., Wilwaukee, Wis.; Webster, Geo. W., Chicago, Ill.; Wilburn, C. T., Lansing, Mich.; Wright, A. L., Carroll, Iowa; Whery, W. P., Fort Wayne, Ind.; Woodbury, Frank, Philadelphia, Pa.
Young, H. B., Burlington, Iowa.